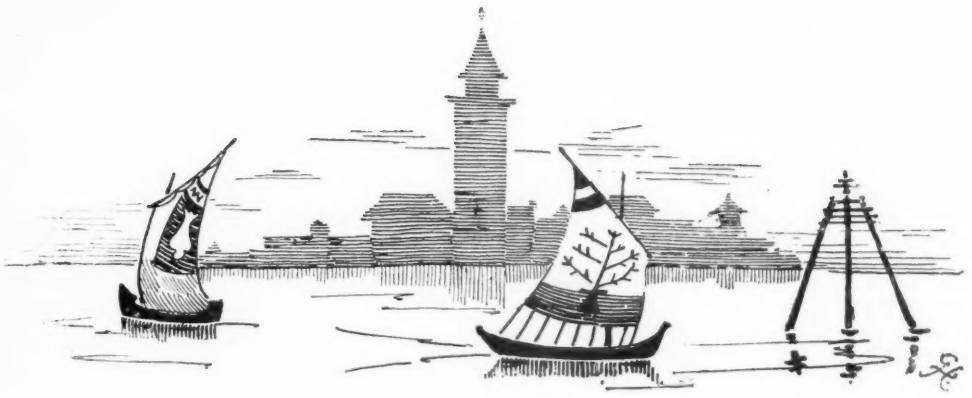


ARCHITECTURE ON THE EASTERN SIDE OF THE ADRIATIC.

By George Hubbard, F.S.A. [*F.*].

Read before the Royal Institute of British Architects, Monday, 4th April 1910.

THERE is no part of Europe less understood and less visited than the Balkan States. The complicated history of the country deters many from attempting to grasp its checkered sequence of events, and the inhospitable nature of some of its provinces preserves them from becoming popular resorts for the ordinary Continental traveller. Few lands, however, are more interesting, and the struggles that have taken place in this great peninsula lying between Europe on the west and Asia on the east have preserved Europe from being over-run by the Asiatic. A very short reference must be made to the leading historical events, in so far as they have influenced the architecture of the Adriatic coast towns.

Various Greek colonies settled on some of the Dalmatian islands. Perhaps the earliest to arrive came from Syracuse, and were settled by Dionysius the elder on the island of Lissa (Issa) B.C. 387. Two years later the Greek colonists passed on to the mainland at Stobrez and Traü. No purely Greek architectural remains have been discovered ; but Greek inscriptions, Greek vases and coins have been found. The Greek colonies continued until the third century B.C., when they were compelled to appeal for the assistance of Rome against the Illyrians. Who the Illyrians may have been is perhaps a little doubtful. At the time when the Greek colonists called Rome to their aid the Illyrians probably occupied the greater portion of the peninsula, and perhaps that wild race now occupying the southernmost State, Albania, may be their descendants. The warfare between the Romans and Illyrians was continued till the beginning of the Christian era, when the Illyrians were conquered and Dalmatia became a province of Rome. In the year 284 the Roman Empire fell to Diocletian, whose palace at Spalato forms the great central point of interest of Dalmatia.

Constantine, who reigned from 306 to 337, moved the seat of government from Rome to the old Greek city Byzantion on the Bosphorus, which has ever since been known as Constantinople, or the city of Constantine. The chief power was thus placed in a city which was Christian from what may be called its new birth.* It was Greek in origin, and though it became the capital of the Roman Empire it remained in fact more Greek than Roman, and the Greek influence in the Roman work in the Balkan States may perhaps be traced to this origin. At about this

* *General Sketch* : E. A. Freeman, p. 99.

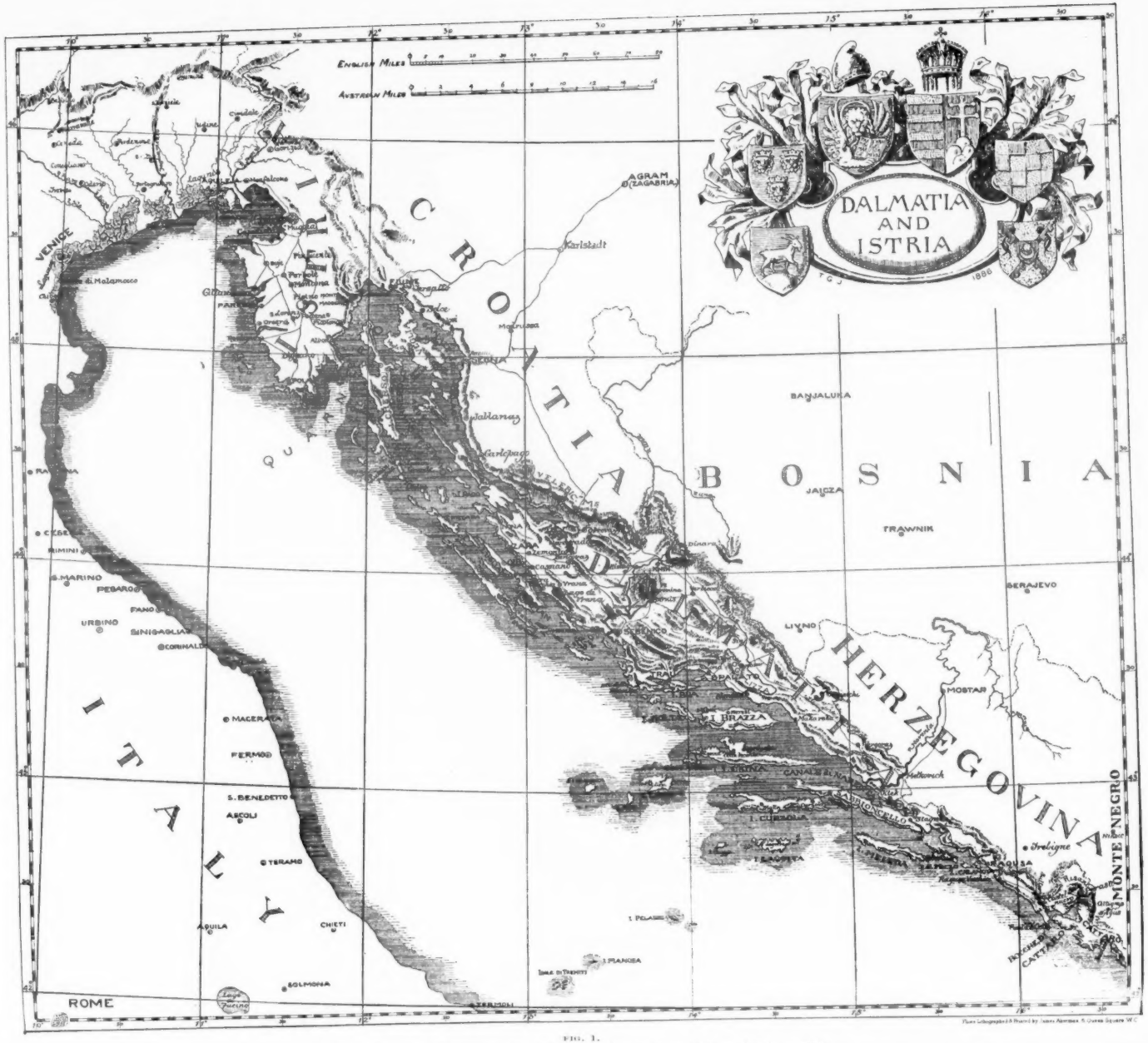


FIG. 1.

From Dalmatia, the Quarnero, and Istria: T. G. Jackson (Oxford, Clarendon Press, 1887).

period the Huns, who were being driven out of China, pressed upon the Goths, a Teutonic race, who had formed a kingdom in Dacia, a province north of the Danube. The Goths in turn took up arms against the Romans in 378. They did not, however, settle in the land they first conquered, but passed on westward, and no Teutonic kingdom was founded in the East. The Huns, however, continued to press onwards, and it was only under the united powers of the Romans, Goths, and Franks that they were defeated at Châlons in 451. This battle was perhaps the most important in all history. It was a struggle between the West and the East, between the Aryan race and the Turanian, between civilisation and barbarism.

The succession of Roman emperors came to an end in the West in 476 as the Teutonic inroads obtained the mastery ; but the Roman emperors continued to rule at Constantinople, and the Roman sphere of influence was more nominal than actual on the west of the Adriatic. The Roman Empire was again united under that great building emperor Justinian, who reigned from 527 to 565. Under this emperor rose the Byzantine architecture, and one of the finest examples of the style may be seen at Parenzo. The Byzantine style flourished on the eastern side of the Adriatic until the great rising of the Avars, a race akin to the Huns. They were originally driven out of Central Asia by the growing power of the Turks ; and in the year 639 they overran the province of Dalmatia and arrested all progress and civilisation for over two hundred years. The Byzantine work at the Duomo of Parenzo, built between 535–543, is an example of the splendid architecture in the time of Justinian. The Romanesque work at San Lorenzo in Pasenatico or at St. Dona at Zara are examples of the crude architecture that emerged when order and civilisation began to return after the Avars were vanquished. In the year 806 Charlemagne subdued the wild Avars and Slavs and extended his conquests over Dalmatia, Istria, and Croatia, but the maritime towns continued under the Eastern Empire. The Byzantines, in fact, remained masters of the sea, and the Franks imposed their rule on the Slavs in the rest of Dalmatia, Istria, and Croatia. This subjection to the Franks was, however, easily shaken off after the death of Charlemagne.

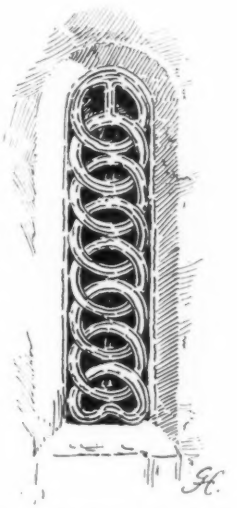


FIG. 2.—ROMANESQUE WINDOW, SAN LORENZO IN PASENATICO (8TH OR 9TH CENTURY).

Many of the coast towns are beautified by examples of Venetian architecture. The Venetians obtained their footing on the eastern side of the Adriatic after they had successfully contested with the Narentines for the supremacy of the Adriatic. The Narentines, according to Venetian historians, were little better than pirates, who levied blackmail on the commerce of the Adriatic and harassed many of the maritime towns of Dalmatia. Most of the maritime towns eagerly welcomed the Venetians as their deliverers, and the cities of Dalmatia offered their allegiance to the great Doge Pietro Orseolo II. and his successors on condition that he relieved them from the oppression of the Narentines. In the year 988 the Doge, after the Narentines were conquered, sailed down the Adriatic coast and received the homage of the bishops and people.

But in the middle of the thirteenth century a new power was growing, the Ottoman Turks, so called after their leader Othman, and their power has lasted till our own time. They hemmed in the Eastern Empire, and all was lost except Constantinople and a small territory around it. The Turks overran the Slavonic States, and their success was largely due to their taking a tribute of children from their Christian subjects. It was only at the beginning of the eighteenth century that the tribute of children was discontinued, and the Ottoman influence in consequence began to decline. This tribute of children always strengthened the master race and sapped the

life of the subject race. It is in the interior of the country that the Turkish work is to be seen, the coast towns having been strongly held by the Latin races before the advent of the Turks.

Short, incomplete, and slight as is this historical sketch, it may perhaps indicate some of the influences which have inspired most of the important buildings on the eastern side of the Adriatic. My chief authority is Mr. T. G. Jackson, from whose excellent work, *Dalmatia, the Quarnero, and Istria*, I have quoted my facts.

After leaving Trieste the traveller soon realises that he has left the West and that he is treading on the threshold of the East. The Slav races never seem to have amalgamated with the Latin settlers; the Serbs still wear their gorgeous costumes, and when I first visited these parts in 1884 every Serb was fully armed with knives and pistols (mostly flintlocks) in his belt.

I shall only refer to two or three of the many islands along the eastern coastline of the Adriatic.

The island of Veglia, which has scarcely yet emerged from mediævalism, has had a varied history. In the tenth century it was subject to the kings of Croatia, and in the twelfth century it fell to the Hungarian king Coloman. Later in the twelfth century it came under Venetian rule, and in 1133 it was ravaged by Croatian pirates, and its city walls and buildings destroyed. The inhabitants, however, with the aid of the Venetians, obtained a decisive victory on 9th March 1133, and to the present time this victory is celebrated annually. Its walls were rebuilt, and at the ancient Porta Pisana the winged lion of St. Mark stands above the site of the old gateway.

Within the walls of Veglia is the Duomo, a twelfth century building, Byzantine in the main, but with a very distinct flavouring of Romanesque. The columns, which are of irregular lengths, appear to have come from some older building. The capitals, as Mr. T. G. Jackson points out, were all made to fit these irregular columns, and the irregularity was adjusted in the abaci so that the springing of the arches should all be at one level. A thoroughly unsatisfactory attempt has been made to form geometrical figures between the intervals of the leaves in the capitals.

On the island of Arbe, as well as on the east coast towns, the winged lion of St. Mark held sway. The Venetian campanile, built about 1200, is a beautiful example. The tower, exclusive of the spire, is 90 feet high and 20 feet square at the base. There is a fine proportion in this campanile, and great skill has been shown in carrying up the work with increasing delicacy in each succeeding story of the tower.

On the mainland, going south from Trieste, is the picturesque town of Pirano. The town has no particular interest, though it is surrounded on the land side with picturesque city walls and towers. Some of the houses have pleasing bits of Venetian Gothic work in them. Before, however, touching that most interesting town of Parenzo it is worth while visiting San Lorenzo in Pasenatico about twelve miles inland. Not many travellers visit this out-of-the-way town, and as we entered through the ancient Venetian gateway of its mediæval walls, every inhabitant appeared to be transfixed with wonder that anybody even in his wildest moments should have dreamt of going to San Lorenzo. The dogs first realised the extraordinary apparition, and without a moment's hesitation they all came dashing at us from every quarter of the town. The women called off the dogs, for the men are not in the town during the daytime. When the noise subsided the children came to us, and never left until the priest took charge of us. The priest is the host in these primitive towns, and travellers should always make themselves known to him. He gave us wine when we were there in 1901, as he had given wine to Mr. T. G. Jackson in 1882; but I doubt whether there have been many visitors between these dates. San Lorenzo in Pasenatico in former times, in the fourteenth century, was the seat of the Venetian Governor of Istria, and the Venetian windows and galleries speak eloquently and pathetically of a vanished grandeur.

On one of the bastions of its city walls stands a Venetian campanile, and in the piazza opposite the church is a fine Venetian well-head, which I think the priest was anxious to sell for

the benefit of his poor parishioners. As, however, we were bicycling and the well-head weighed over a ton, we were compelled to banish the thought of possessing this fine example of Venetian Gothic work, which after all has an historical interest in the midst of its present surroundings, and would have little or none if removed.

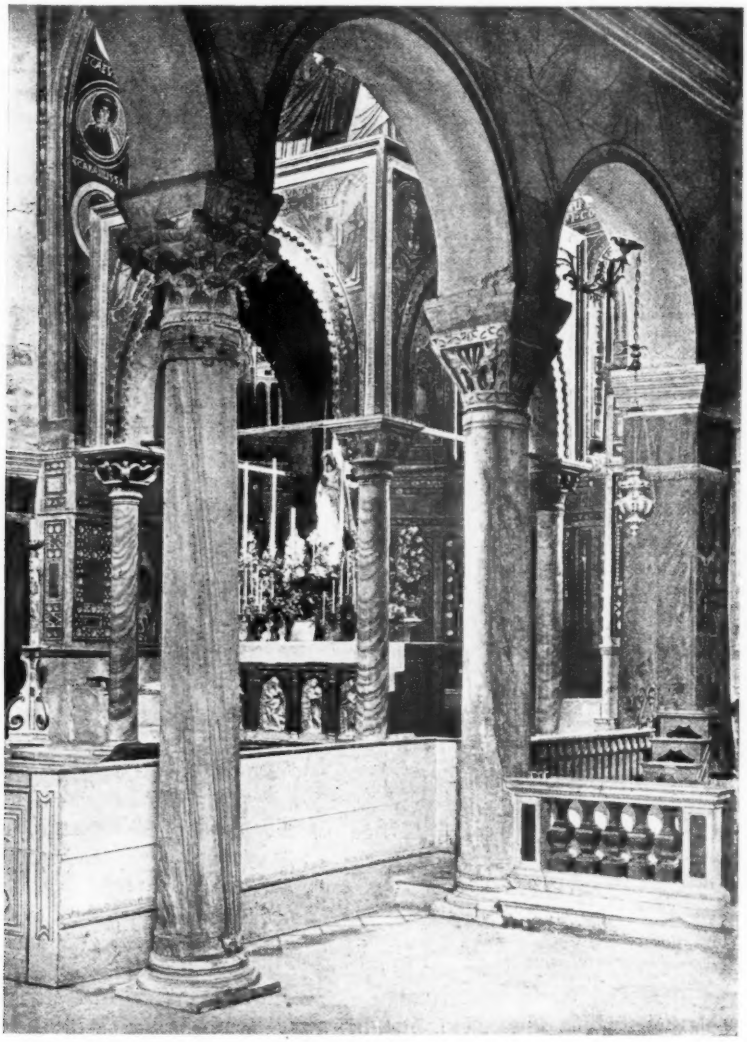


FIG. 3.—HIGH ALTAR, PARENZO, FROM THE SOUTH AISLE.
From *The Shores of the Adriatic*: F. Hamilton Jackson [Lond., John Murray, 1908].

The perfect art of Byzantine architecture died in the onslaught of Avars and Slavs in the seventh century, and in San Lorenzo we find the return to civilisation in the eighth or ninth century after Charlemagne's conquest. This early example, like San Donato of Zara, is crude, deformed, and misshapen perhaps; but in it are the germs of the Romanesque style which grew

and flourished and survived longer on the eastern side of the Adriatic than anywhere else. So crude indeed is this church that the arches of the nave are actually of different heights. The capitals look like debased Roman work, but bear a Byzantine character with the large impost blocks. One window in the apse of the south aisle is purely Romanesque in appearance [fig. 2, p. 431]. This window (which was never glazed) is covered with a rough tracery of interlacing circles. To those who take an interest in the development of architecture, this primitive window will appeal with particular force. Here is a window of the eighth or ninth century covered with tracery—little can the carver have thought, as he chiselled out this tracery, of the glory of that treatment in subsequent Gothic architecture.

It is now interesting to compare this crude work of the eighth or ninth century with the marvellous refinement of the Duomo of Parenzo. The Duomo of Parenzo, according to Mr. T. G. Jackson, can be shown by documentary evidence to have been built between 535 and 543. It is as fine as Sant' Apollinare in Classe at Ravenna or Santa Fosca at Torcello, and in the completeness of its plan with its atrium and baptistery it surpasses them. This beautiful example of a Byzantine basilica of the first period has fortunately been spared to us almost wholly in its

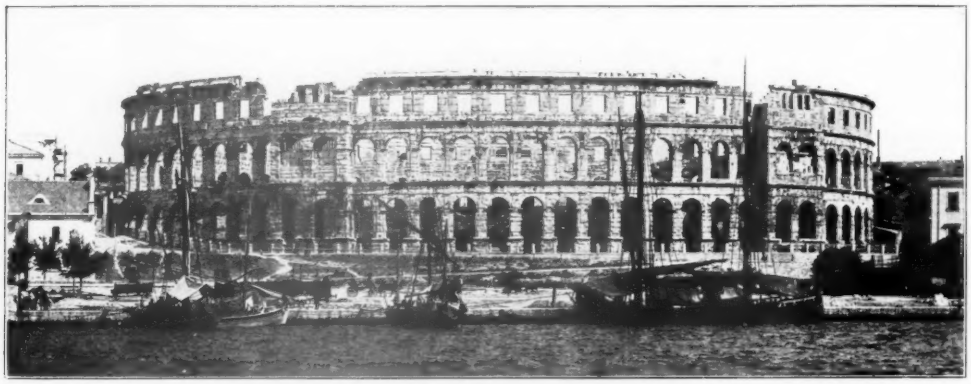


FIG. 4.—ROMAN AMPHITHEATRE, POLA.

original state. In 1881 it was necessary to lay a new floor, for the Duomo stands on a low peninsula which gradually, through the ages, is sinking into the sea. As the sea washed over the floor a new floor was laid 12 inches above the old one. When I saw this church in 1901 the custodian showed me the old floor, and he also showed me a still earlier floor at a depth of 3 feet 9 inches below the present flooring. This lowest floor may be late Roman work—a floor, in fact, of a Roman building which stood on the site of the present church. To the west of the basilica is a square atrium, with a covered ambulatory around its four sides.

The capitals supporting the arches around the atrium are deeply cut, showing in fine relief the rich Byzantine tracery on their convex outline. In some cases the columns appear to have come from an earlier building, as they do not in all cases fit the capitals they support. To the west of the atrium is an octagonal baptistery, with a sinking in the floor where probably a marble-lined piscina previously existed. To the west again of the baptistery stands a fifteenth-century Venetian campanile.

The perfection of Byzantine art is realised in the interior of the Duomo. The episcopal throne is at the east end of the nave apse, and the marble seats for the clergy are placed right and left of the throne around the sweep of the apse, the ends of the seats being terminated by dolphins.

The chief glory of the east end is in the early Byzantine mosaics of the sixth century, which form a high dado above the seats of the clergy. To modern ideas the combination of materials that have been employed in this mosaic may seem incongruous. Burnt clay of a dull deep red colour, obscure glass, polished marbles, and flat oyster shells have all been employed ; but combined together they give such an effect as would be impossible of attainment in glass alone. The oyster shells still keep their gleaming pearly whiteness, and give peculiar emphasis to the design. The centres of the panels are sometimes polished slabs of porphyry. On the centre panel, over the episcopal throne, is a gold cross on a ground of serpentine and mother-of-pearl. Above this deep dado of panels the wall surface is entirely covered with mosaics, which are more in accord with our general appreciation of Byzantine mosaic ; but for real courage of design I do not know of any mosaic to equal the high dado above the marble seats.

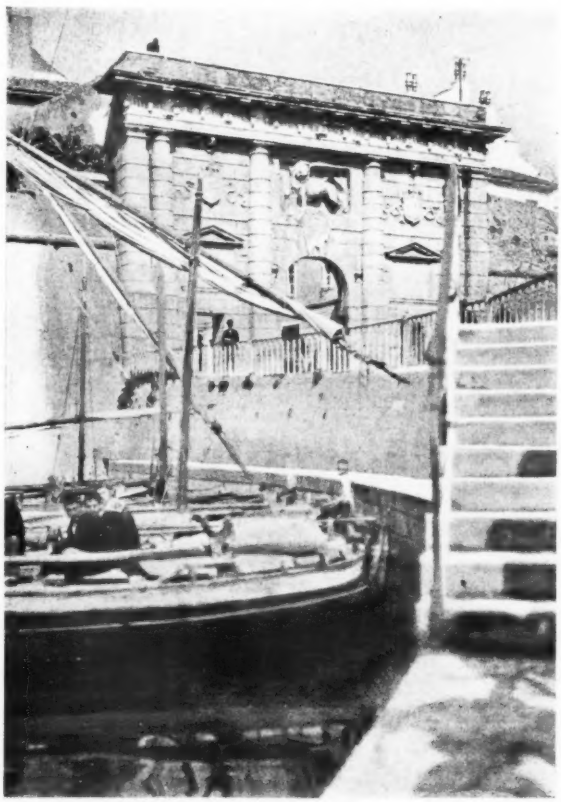


FIG. 5.—PORTA MARINA, ZARA.

From *Dalmatia*: Maude M. Holbach [Lond., John Lane, 1908].

The Byzantine capitals are superlatively fine ; but the great impost blocks appear at first sight rather redundant to a mind trained on Gothic lines. These impost blocks, or double capitals, came into vogue when the early Byzantine builders constructed their vaulting so that the load fell on to the capitals. To their minds the load may have appeared excessive for the capitals to bear, and possibly with the idea of distributing the load through a superimposed block on the capital it was hoped that the danger of crushing the capital would be avoided. The present high altar [fig. 3] was put up in 1277 by Bishop Otho, and the dentilated spandrils containing the mosaics are characteristic of Venetian Gothic work.* The columns and capitals are, however, of an earlier date.

Pola, which has now become the most important Austrian naval base, must have been a still more important Roman town. The shell of a great Roman amphitheatre [fig. 4] stands to-day outside the town as it stood in Roman days outside the city walls. It has been calculated by Dr. Kandler that the theatre would hold 21,000 spectators, besides 10,000 who might take part in the performances. These enormous numbers, Jackson says, "are of course quite disproportionate to the population even of Roman Pola, and prove that the shows and dramas were intended not only for the city but for the province." † This great elliptical hollow shell

* *The Shores of the Adriatic, the Austrian Side*, Hamilton Jackson, p. 116.

† *Dalmatia, the Quarnero, and Istria*, T. G. Jackson, vol. iii. p. 291.

now forms a mighty enclosure to grazing grounds. At the terminals of the long and short axes, projecting towers have been built. In the windows of these towers curious tracery exists, that is formed by piercing stone slabs and sometimes by the building in of square balusters. Besides the amphitheatre at Pola there is much Roman work. There is the Porta Gemina, beyond which again is a single Roman archway leading to the town. Within the town, however, stand two Roman temples. Originally they were exactly alike. These temples, one of which is still perfect, are perhaps as fine examples of Roman work as any extant.

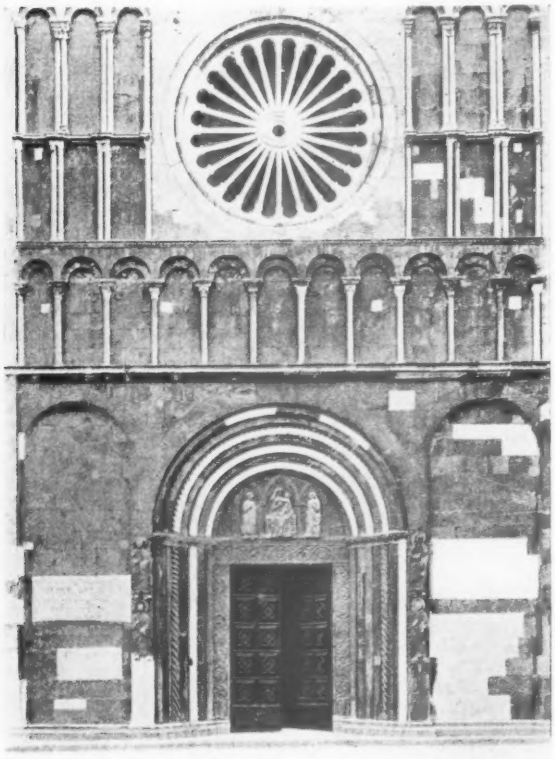


FIG. 6.—FAÇADE OF DUOMO AT ZARA.
From *Dalmatia*: Maude M. Holbach [Lond., John Lane, 1908].

The town of Zara is approached through the Porta Marina [fig. 5], a Venetian structure with the great lion of St. Mark with his paw on the open book. Inside the town stands the ungainly circular church of San Donato. This, like San Lorenzo in Pasenatico, is an early example of returning civilisation at the beginning of the ninth century, after the lapse of some three centuries since the building of the beautiful Duomo at Parenzo. It is perhaps even more debased than San Lorenzo, and the debasement is due to the same cause. That mighty rush of Avars killed the Byzantine art, and the abortion San Donato is a monument testifying to the thoroughness of the onslaught.

San Donato is a round church of the same type as San Vitale at Ravenna, or the Cathedral of Aix-la-Chapelle. It has a circular space in the centre rising to the roof, and a two-storied circular aisle surrounds it. The amazing interest of this church is, however, revealed in its foundations. The earth over a portion of the interior has been excavated to a depth of perhaps four feet, and the foundations exposed. Here, lying in a perfectly promiscuous manner, are great blocks of Roman entablatures, the drums of marble columns, and classic fragments. Jackson well remarks of these fine classic remains buried in the foundations that they "seem to have been trodden underfoot with an ascetic scorn for the meretricious splendour of pagan rites and pagan temples, and with sublime irony to have been made to carry the simple piers and coarse masonry of the Christian church." *

The Cathedral of Zara was not probably begun before the thirteenth century. It is basilican

* *Dalmatia, the Quarnero, and Istria*, T. G. Jackson, vol. i. p. 259.

in plan, and it is perhaps curious that this plan should be so long continued in Dalmatia after it had been given up on the other side of the Adriatic. This Romanesque building, with its arcaded west front, is considered by Fergusson to be superior to San Michele or San Martino at Lucca, or the Cathedral at Pistoja or Sta. Maria at Arezzo. Its simple west porch [fig. 6], with its members of the arch truly corresponding with the shafts, is very correct in detail. Romanesque architecture in Dalmatia long continued as its national style after the rest of Europe had developed into Gothic. The west front of Zara Cathedral was built in 1324, or 150 years after the transition from Romanesque to Gothic in France and England.

Another fine example is St. Grisogono with its external arcaded apse and delicate colonnade. It is very doubtful whether anything finer of its kind could be found among the Lombard churches of Italy. Its date is 1175. The west front dates probably from the beginning of the fifteenth century.

The Cathedral of Sebenico is perhaps unique in its construction, for throughout the building neither brick nor wood has been used. As Jackson says, "Indeed not only Italy but Europe may be challenged to show another church of this size in which neither timber nor brick is employed, everything being constructed of good squared stone, marble, or metal." This is no idle challenge ; the walls and roof are all of stone, neither timber nor tiles are employed anywhere in its construction. If stone walls are sufficient protection against the elements it is difficult to see why the stone vaulting should not likewise suffice. I am of opinion that the honesty of this construction has much to commend it. It may be taken as an accepted canon in art that the construction of a building should be the basis of the design. To conceal the construction is an attempt to deceive the mind, and the more the cloak of deception is enriched the further the mind is carried from the true appreciation of the construction of the building. Now in the Duomo of Sebenico the whole construction of the roof over the nave, aisles, and tower is equally apparent, whether viewed from the interior or the exterior of the building. In our Gothic work the whole construction of the vaulting is externally concealed from view by the timber and tiled roofs, but it is interesting to

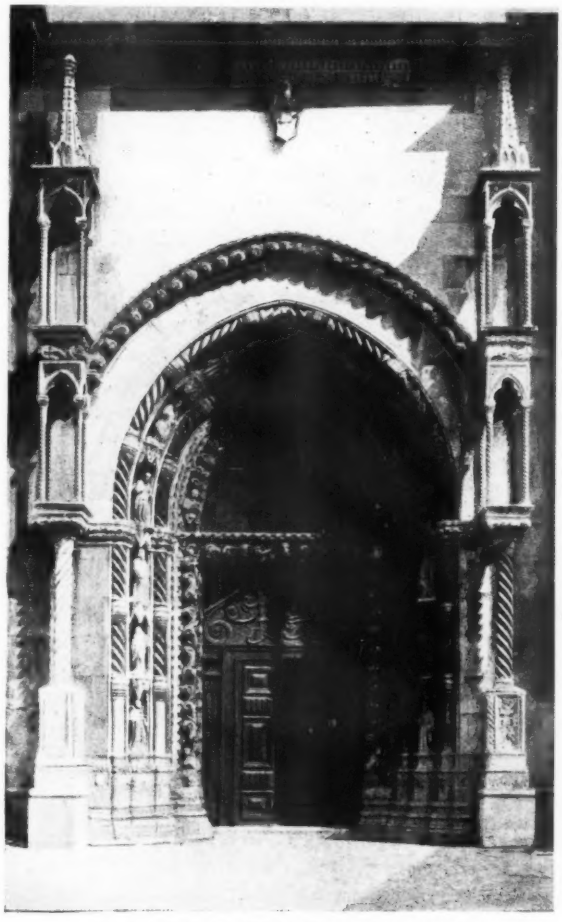


FIG. 7.—WEST DOORWAY OF THE DUOMO AT SEBENICO.
From *Dalmatia* : Maude M. Holbach [Lond., John Lane, 1908]

speculate as to how the upper surface of the vaulting would have been treated by the Gothic builders had they adopted the form of construction employed in the Duomo at Sebenico.

From Jackson's most interesting description a detailed account is given of the architects who were engaged and the exact dates when the several parts were built.

Very shortly, it appears that the west end and nave were designed by one Master Antonio, and were built between 1431 and 1441, when Antonio apparently was dismissed, and Master Giorgio Orsini, of Venice, was engaged to complete the work. Antonio's work is purely Italian Gothic, but the Renaissance rage which arrested the development of Gothic architecture came in during the period of the building of this church. The transition took place after Antonio was dismissed, and before Giorgio was engaged. In the work of this latter architect the Renaissance influence is clearly to be seen.*

The Venetian Gothic porch, with its Lombardic lions supported on *quasi* classic consoles, is a very fine example of Gothic work of Antonio, but the Renaissance cornice of the parapet marks the change in style introduced by Giorgio of Venice. In the town are many Venetian Gothic windows, and at least one external marble staircase in which the balusters and ends of the steps are beautifully carved.

Traü is the next town further south of marked importance, and the Duomo of Traü is a building of the first importance. The city of Traü now stands on an island, and the island is approached over a wooden bridge. It is a walled city which practically covers the sland on which it stands. A Venetian gateway with the guarding lion of Venice is carved over the arch [fig. 8], as at the Porta Marina at Zara and many other towns in Dalmatia. Outside the gateway all carriages must stop, for the network of narrow roads, only about four or five feet wide, make wheel traffic impossible. Its narrow roads are often spanned by arches and beautified by rich Venetian galleries and Venetian Gothic windows. These sunless little roads we found most delightfully cool after the heat of the shadeless road by which we had travelled on our bicycles. The only open space in the town is the Piazza del Duomo, on the south of the cathedral. The south side of the cathedral forms one side of the square, and opposite to this is the Venetian Loggia; at the ends of the square are situated the Palazzo Communale and the Palazzo Cippico. Mr. Jackson's drawing of a capital from the Loggia shows a very fine example of Venetian Gothic work.

The building of the cathedral was begun about 1200, and various parts of the structure bear dates as the work proceeded. The body of the church was completed in 1440, very nearly 250 years after its commencement. The tower, however, was not completed till 1598, as is recorded by an inscription, though the lower portion of the tower bears the date 1421. The church is purely Romanesque. It has a basilican plan with a large and beautiful porch at the west end. This porch is perhaps the most perfect and beautiful example of any Romanesque work that exists. Dalmatia seems to have been little influenced by Western Europe, for in Dalmatia they went on developing the round arched style long after the Gothic pointed arch had become established elsewhere in Europe. This long continuance of the round-arched Romanesque gave an opportunity of perfecting this style which culminates in the porch of the Cathedral of Traü. In the carved work of this beautiful Galilee porch or narthex there is an extraordinary wealth of Romanesque imaginings, and the whole is finished with marvellous perfection of execution. On either side of the west doorway are great archaic lions, standing on classic consoles; they project out boldly at a height of perhaps six feet from the ground. They support brackets on which Adam stands on the south and Eve on the north. These figures are nude and life-size, and they have some of the imperfections of the

* Jackson, *op. cit.* p. 381, et seq.

period when they were executed. They look very much ashamed of themselves in contrast to the bold and impressive beasts below them. The hunting of the deer amidst the intertwining trunks and foliage forms a charming and interesting shaft next to the plain moulding of the doorway. In the interior, the octagonal pulpit and high altar at the east end probably belong to the fifteenth century, though they would certainly be taken as belonging to a much earlier date if they were to be found on the west of the Adriatic.

FIG. 8.—A GATE OF TRAÜ, WITH CAMPANILE IN BACKGROUND.
From *Dalmatia* : Maude M. Holbach [Lond., John Lane, 1908].

To continue the journey southward, the city of Spalato or the palace of Diocletian is reached. Professor Freeman has rightly pointed out that " By the banks of the Tiber the city of Romulus became the house of a single man ; by the shores of the Adriatic the house of a single man became a city." * Diocletian did in fact when building his house build a city. The building covers an area of 9½ acres of land ; but it is not only the great scale on which the palace was laid out, nor the completeness of its appointments, nor its general magnificence, it is rather the originality in its detail and the striking development in its construction that single this building out from all others as exerting a greater influence upon subsequent styles, either Romanesque or Gothic, than any other building in the whole history of architecture.

The palace is worthy of the man. Diocletian, born in the year 254 of slave parents on the eastern side of the Adriatic, rose to be master of the world, and with him ended the control of Rome over the eastern part of the Adriatic. He abdicated at the age of fifty-nine, and retired to the land of his birth, where he built his palace. So ruined is the palace that, in order to give any idea of its ancient magnificence, I propose illustrating my remarks from Adam's monumental work published in 1764. From the plan [fig. 9] it will be seen that it is a rectangular building, and on the north, east, and west the external walls are defended by square and octagonal towers ; while on the south front, towards the sea, is what Adam calls the great cryptoporticus, having a frontage of over 500 feet. From this gallery, or cryptoporticus, some of the royal apartments could be entered. The royal apartments were to

* *Subject and Neighbourlands of Venice*, Prof. E. A. Freeman, p. 141.

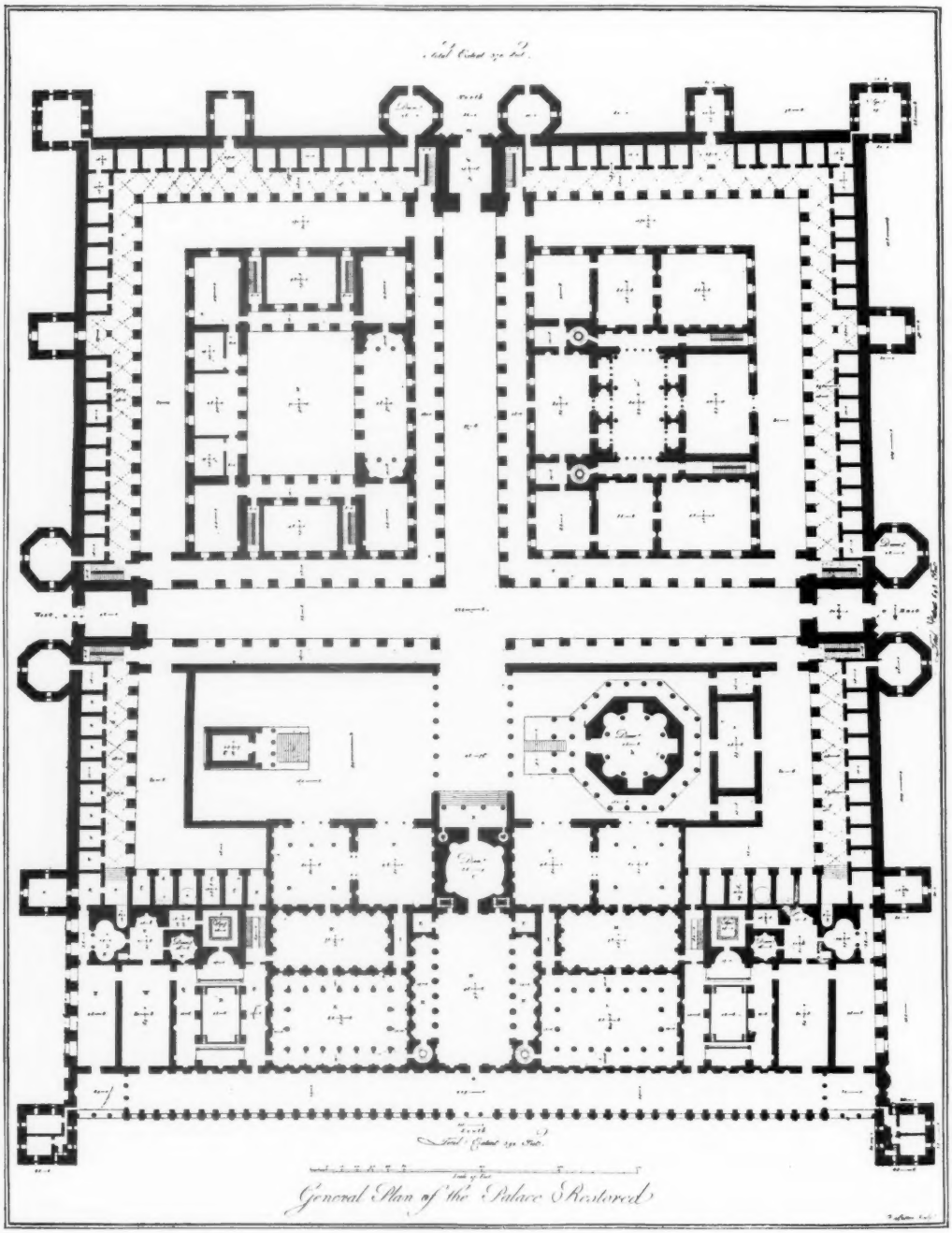


FIG. 9.—THE PALACE OF DIOCLETIAN AT SPALATO: PLAN AS RESTORED BY ROBERT ADAM, 1764.

the south, and were flanked on the west and east by an elaborate system of baths. The octagonal building in the south-east section is called by Adam the "Temple of Jupiter," but it is suggested by Dr. Arthur Evans that Diocletian intended the edifice to be his mausoleum. The building is now, however, converted into the Cathedral of Spalato. The small temple in the south-west section was referred to by Adam as the "Temple of Æsculapius." According to Adam, possibly the block of buildings in the north-west section was for women, and the block in the north-east for courtiers. Probably the cubicles around the external walls were for soldiers. The principal entrance was on the north, which is still called by the ancient name

FIG. 10.—PORTA AUREA, SPALATO.

"Porta Aurea" or Golden Gate [fig. 10]. The east gate was the "Porta Ænea" or Bronze Gate, and the west gate "Porta Ferrea" or Iron Gate.

In the illustrations shown of this Roman palace it will be seen that there is a very marked tendency to depart from the accepted Classic standards, and on this account the palace may not appeal to those who can only admire purity of style; but I submit that when those departures from the accepted standards have had an influence on all subsequent architecture, then the building commands our particular attention. None of the buildings attained any great height, as may be seen from the sections. Though much remains, it cannot, I think, be accepted

that Adam's plans and sections are entirely reliable; no doubt they were to a certain extent conjectural.

At the entrances provision was made for the raising and lowering of a portcullis. The grooves in the jambs are clearly defined, and the hole in the staging above the archway shows where the chain passed when raising and lowering the portcullis. I had always been under the impression that the portcullis was a mediæval device until I saw it at Diocletian's palace. At the north gate,

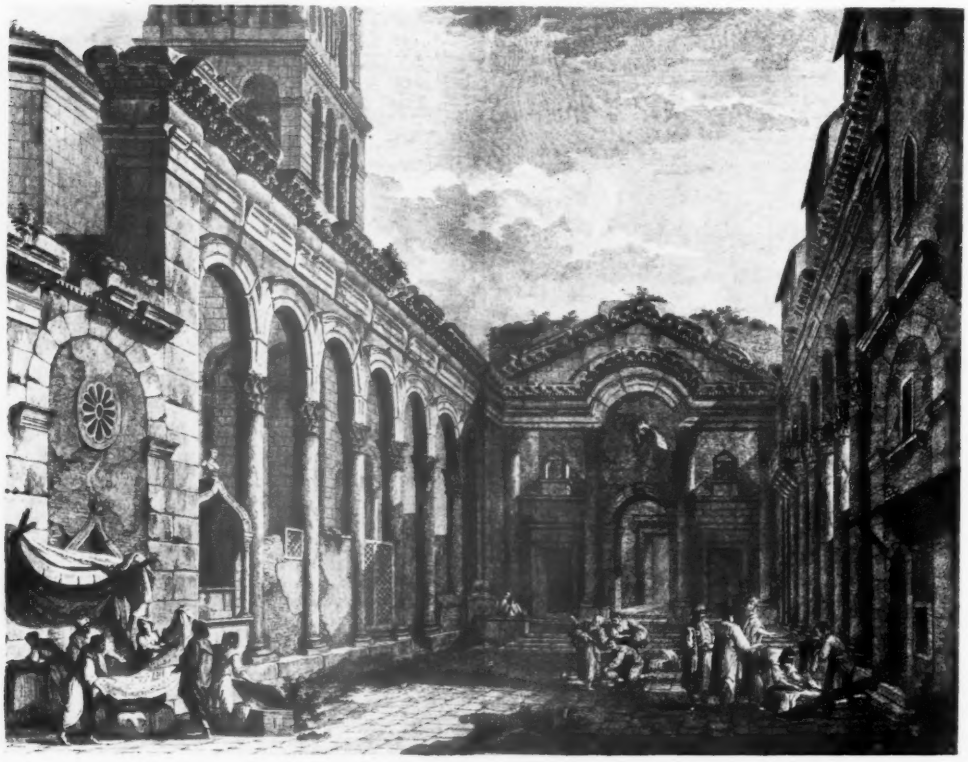


FIG. 11.—PALACE OF DIOCLETIAN AT SPALATO: THE PERISTYLE.
From Robert Adam's *Palace of Diocletian at Spalato* [Lond. 1764].

the Porta Aurea [fig. 10], it is apparent that the arcaded feature has a Romanesque rather than a Classic appearance.

If we walk in at the Porta Aurea and pass along the main thoroughfare through the palace, we soon arrive opposite the portico to the Vestibule. The feature of the arch spanning the space between the central columns, and the arches which span the openings from capital to capital of the columns in the peristyle, all mark a striking departure from true Classic rules.

The columns are of Oriental granite, and the entablatures and capitals of statuary marble. The Vestibule was approached by a handsome doorway from the portico. The Vestibule, according to Adam, who obtains his authority from Ovid, "was a sacred place, consecrated to the gods, particularly Vesta, from whom it derives its name." The Vestibule was a domed building, with a central opening in the dome to admit light, as at the Pantheon at Rome. Beyond the

Vestibule to the south stood the atrium or great hall, probably dedicated to the ancestors. From the atrium the cryptoporticus could be approached. The appearance of the cryptoporticus is much spoilt by the houses which have been built between the arches, and the shops

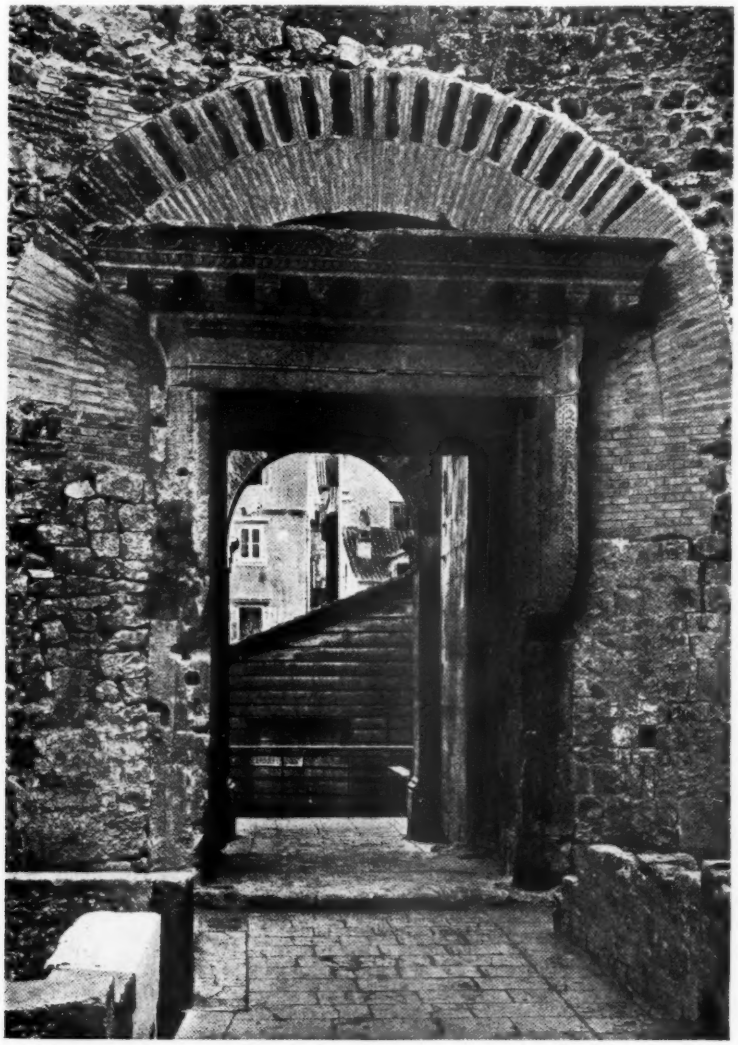


FIG. 12.—DOOR OF THE ATRIO ROTONDO, PALACE OF DIOCLETIAN, SPALATO.
From *The Shores of the Adriatic*: F. Hamilton Jackson [Lond., John Murray, 1908].

which have been formed by the lower portion of the wall; but in Diocletian's time it must have been a magnificent façade to the sea.

The "Temple of Æsculapius" is a small tetrastyle prostyle, the chief feature of which now remaining is the doorway [fig. 13]. The running, tendril-like enrichment of the architrave, with little winged angels, seems scarcely appropriate to the pagan Emperor Diocletian, but in it is

the same motive of design that we saw in the porch at Traü. The construction of the barrel roof is very similar to that unique building the Duomo of Sebenico. The mausoleum, now the Cathedral of Spalato, has at the entrance a magnificent mediæval campanile, which was encased in massive scaffolding when Jackson saw it in 1882, was encased when I saw it first in 1884, and was still encased when I saw it in 1901 and 1902. Work proceeds slowly in Dalmatia; but the Dalmatians generally manage to complete whatever they begin.

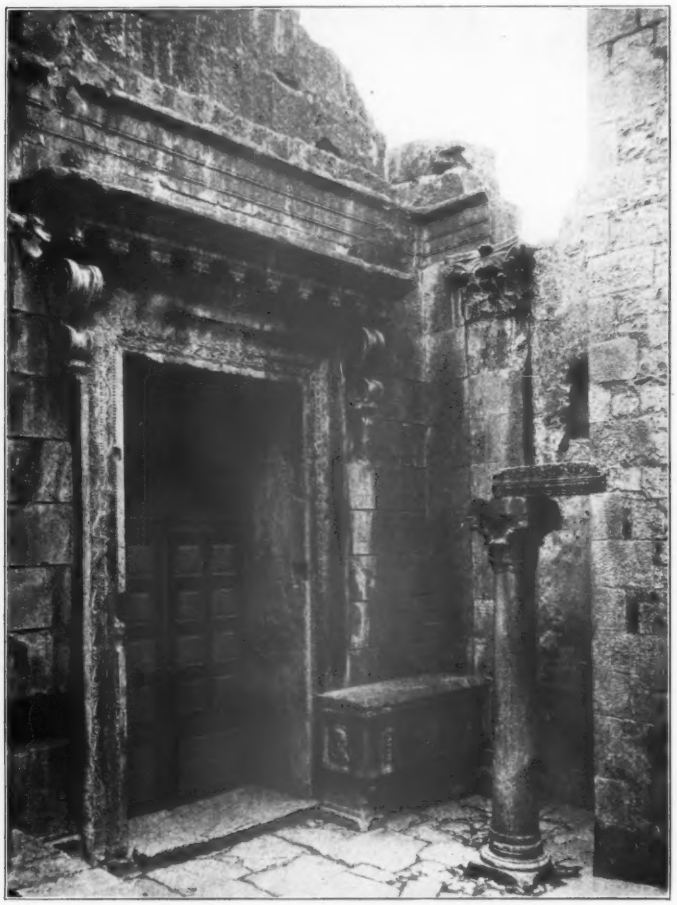


FIG. 13.—DOORWAY IN TEMPLE OF ÆSCULAPIUS, SPALATO.

The thirteenth century pulpit is a superlatively fine specimen of Romanesque work. It is hexagonal in form, and made of various coloured marbles and compact limestone. The proportion of the respective parts in relation to the whole is admirable. It is indeed very doubtful whether any finer work of the period exists in any country; the detail is beautiful, and rich in the symbolism of that earnest Romanesque period [fig. 14].

The campanile is built without any foundation. The old steps and platform in front of the mausoleum were accepted as strong enough to support a massive campanile standing 160 feet above the level of the platform. Perhaps all would have been well for these confident mediæval builders if they had not cut through the platform to form two staircases; but as things are, there are ominous signs of the campanile giving way, hence the scaffolding which has hidden the view of the structure for so many years. The dome over the mausoleum has a curious fan-shaped construction. It is formed of tiles which bear the stamp "S. P. Q. R." (Senatus Populusque Romanus). Not in Rome itself is a palace of such proportions to be found, and perhaps nowhere in the world did one man ever build such a stupendous edifice for his own occupation.

In their standard work, *Architecture of Greece and Rome*, Messrs. Anderson and Spiers point out the four striking departures from true Classic style that occur in Diocletian's palace, and they show that in no case do these departures make their first appearance here. The decadent features are :—

1. The arch over a wide central intercolumniation (as in the Portico to the Vestibule) dates back to 151 A.D., being found in the Propylæa at Damascus and in the Temple of Atil.

2. Capitals carrying an arch without intervening entablature (as in the Peristyle) are found at Pompeii.

3. Columns carried on corbels (as above the Porta Aurea) existed in the Thermæ of Titus built in the first century A.D.

4. The accentuation of the Roman relieving arch over a lintel by enriching it with mouldings (as in the Porta Aurea) is found in the second century in Asia Minor and Syria.

The same authorities say that these departures are "the four leading features of the decadence in Roman architectural forms, and they are certainly exhibited in the palace at Spalato in a more striking manner than in any other building."*

When the great flood of Avars swept over the country in 639, the inhabitants fled from the Capital of Salona, and took refuge in the islands. At a later date they left the islands and took up their abode in the deserted palace of Diocletian. The walls of the palace became the city walls, and from that time onwards the palace has been the centre of a town. Water was carried by an aqueduct from Clissa to the palace.

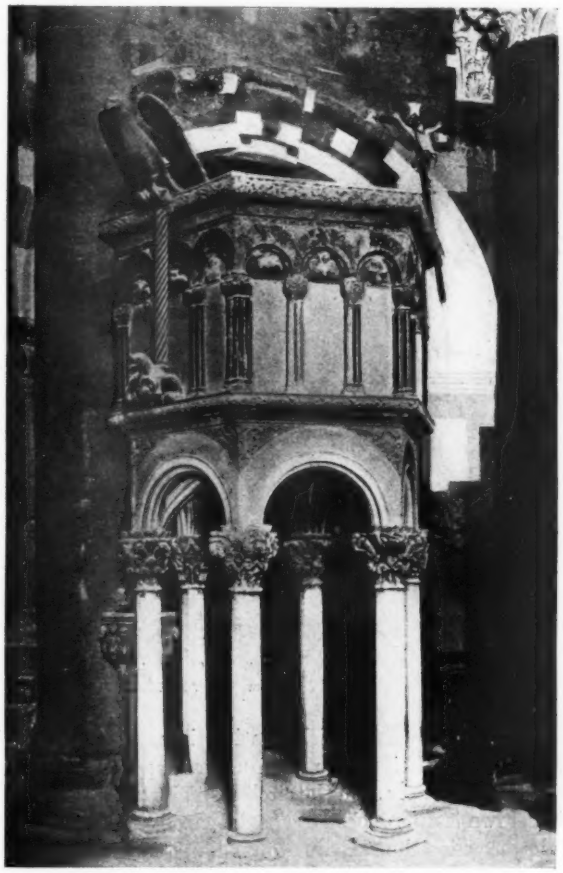


FIG. 14.—ROMANESQUE PULPIT IN THE DUOMO AT SPALATO.
From *Dalmatia*: Maude M. Holbach [Lond., John Lane, 1908].

Salona, when it fell before the rush of Avars, was a mighty city, surrounded by a wall in which traces of eighty-eight towers have been found. At one of the city entrances three arches stood, the centre one for vehicular traffic and the side ones for pedestrians. The paved roadway here, as at Pompeii, shows worn ruts some 6 inches deep. Within the ancient walls is a great amphitheatre and the remains of a curious Christian basilica. A vast number of stone sarcophagi were being unearthed by Professor Bulić when I was there. Many were inscribed, but all had been rifled by the Avars. On the rocky side of the hill tombs had been cut, and entrances to them were gained by raising stone doors which ran in slots in the jambs. Inside the chambers were stone shelves on which could still be seen the bones of those Christians who must have been buried in the seventh century, or earlier. Two extremely fine early Byzantine capitals now in the

* *Architecture of Greece and Rome*: Anderson and Spiers, pp. 258, 259.

museum at Spalato came from the early basilica. As we left Salona we noticed great numbers of classic fragments built in the walls at the side of the dusty road by which we journeyed to the beautiful town of Ragusa. Ragusa, unlike the other coast towns, maintained itself as an independent commonwealth, though, according to Freeman, it did at different times have a dependent relationship to the dominion of the Venetian or the Turk; but it never was actually incorporated with either of them. The Lion of St. Mark is not to be seen here. The massive walls which surrounded this independent commonwealth force the traveller to realise the life-long sturdy courage of those early settlers. These settlers were Greeks who had from a very early time lived at Epitaurum, now Ragusa Vecchia. When the Avars swooped down on them the Epitaurians fled to the rocky coast and founded there the present town of Ragusa. Here

FIG. 15.—CITY WALLS OF RAGUSA WITH MINCETA TOWERS.
From *Dalmatia*: Maude M. Holbach [Lond., John Lane, 1908].

they surrounded themselves with the massive walls which climb the mountain side. They are stupendous, their very magnitude conveys the impression of impregnability.

Great towers stud the circling mighty walls which crown the verge of an inaccessible precipice. The town is approached over a drawbridge, and as we entered, a woman came up to us holding out a letter which she asked us to read and translate for her. It was in English and from a sailor who had in a blunt, matter-of-fact way written to the woman to say that her husband had been drowned. Perhaps we broke the sad news more gently than the sailor had attempted to do. The letter was an old one, and, unconsciously, she had been keeping the sad news till she had found some one who could translate it. The most interesting building in Ragusa is the Palace of the Rector of the Ragusan Commonwealth [fig. 16], and its history is one of the most complex that I know; this complexity has been most cleverly unravelled by Jackson, and those who wish to know more about it should read his account.* The difficulty which at first presents itself is that the

* *Dalmatia, the Quarnero and Istria*, vol. ii.

upper portion, above the arcaded portico, is in Gothic work of the date 1435, and the portico which stands below it is Renaissance, and, contrary to the proper order of things, is of a later date. The date of the portico is in fact 1464, which was thus built twenty-nine years after the upper portion of the building.

Shortly, the history is that on this site stood originally a fort or castle which was pulled down, and the Rector's Palace was built on the site in 1388. The Ragusans kept their powder magazines close to this building, and during a fire which occurred on 10th August 1435, the magazine exploded and the palace was wrecked. The palace was thereupon rebuilt in that year 1435, and one Master Onofrio Giordani di la Cava, of Naples, was engaged to carry out the work. The Ragusans were slow to learn by experience, for they put their magazine as close to

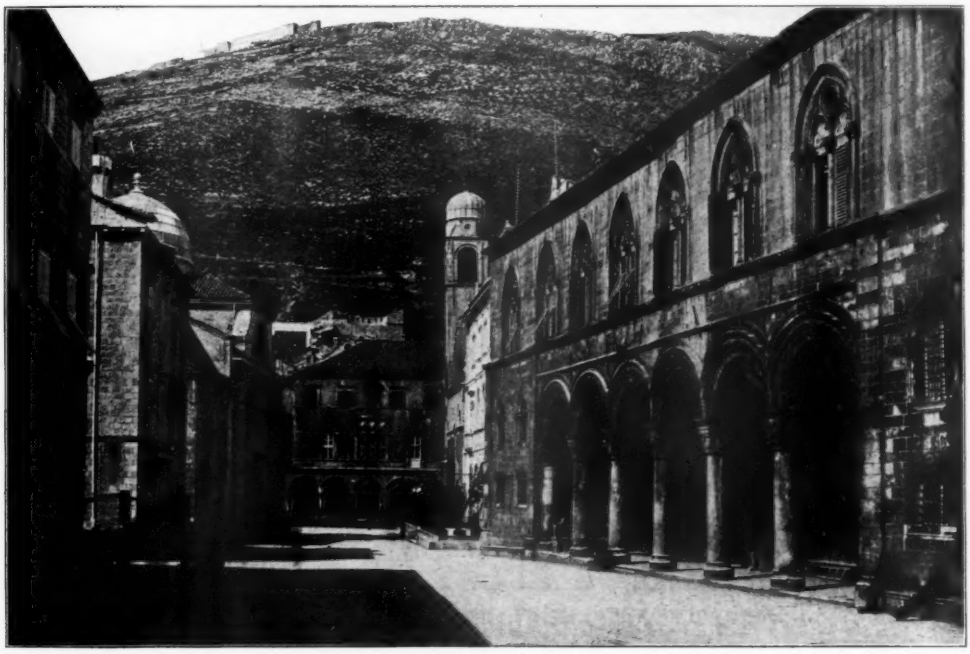


FIG. 16.—RECTOR'S PALACE, RAGUSA.

their new Rector's Palace as before. And as before a fire broke out. This fire occurred on 8th August 1462, and the palace was much damaged by the explosion. It became necessary to pull down the ruin ; but as the upper portion was only partially damaged it was determined to use again the Gothic windows. Two architects were employed by the Grand Council to carry out the work. One was Michelozzo Michelozzi, a pupil of Donatello, and he was considered, after Brunelleschi, to be the most able architect of the early classic Renaissance style. The other architect was Giorgio Orsini, of Venice, of whom we heard at Sebenico, where he completed the cathedral in the Renaissance style. Now the original arcading to the portico of the 1435 palace had pointed arches, and these two Renaissance architects determined to put in round arches in the 1464 palace ; they used some of the old capitals, and I think all the old columns ; but in order to make up the necessary height, when they adopted round arches instead of the taller old pointed arches, they inserted deep abaci. The old Gothic windows were reinstated

in the upper floor. This is the explanation of the anomaly in this building, where the upper portion appears to be older than the lower portion. This outlying independent State of Ragusa continued to build in the primitive Romanesque style till a later date than anywhere else, even in Dalmatia. The consequence is that there is a temptation to assign a far earlier date to the buildings than the facts allow. The Dominican Convent, by Fra Stefano, was erected about the year 1424, but judging by its style it might quite well be the work of the eleventh or twelfth century.

It is not only the architecture of this coast-line which is so interesting, there is a wild charm about the Balkan States which is extremely fascinating. On that wild and uncertain borderland between Montenegro and Albania is the ancient site of Doclea. Here stood a Roman town, and the Roman walls still stand surrounding the ruins of the ancient city. There is the ruined Roman

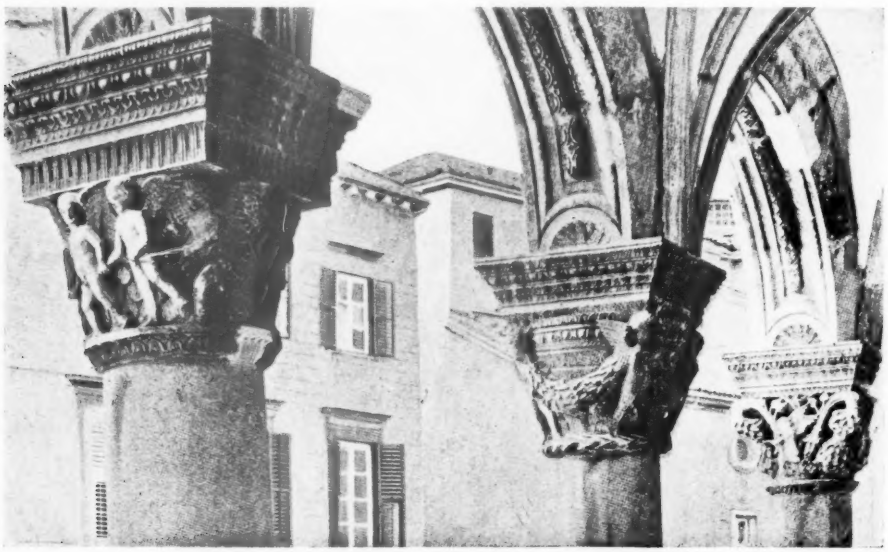


FIG. 17.—CAPITALS OF THE LOGGIA, RECTOR'S PALACE, RAGUSA.
From *Dalmatia* : Maude M. Holbach [Lond., John Lane, 1908].

forum, and massive pieces of carved entablature lie scattered on the ground. It is a deserted spot, overgrown with thorny brambles. I remember sitting there in the evening on a heap of ruined masonry ; not a soul was in sight, and not a sound to be heard but the humming of the winged insects, and the scratching, grating noise of the tortoises as their horny shells rubbed against the brambles and Roman masonry. Scraping away the soil at my feet, just below the surface I came upon a Roman tesselated pavement. Darkness was coming on, and I returned to Podgoritza, which was full of Albanians and Montenegrins in all the gorgeousness of their national costumes. In the hotel the talk was the talk of wild, primitive men—of revenge and blood feuds. Blood was the only subject of conversation besides the excitement of a marriage in the town. It appeared that a Montenegrin had married a Turkish damsel from over the border in Albania. Not only was the Greek priest who had married them to be murdered, but the unfortunate young couple were to meet the same fate. Few experiences stand out more clearly in my mind than the night I went off with my Montenegrin host of the hotel to see the cottage where the young people were housed. As we walked along the quiet road during the night I noticed a cave at the

side of the road, and the dying embers of a fire inside the cave gave a subdued, glowing light. My curiosity tempted me to look in, and I was immediately greeted with a howl like that of a wild beast. My host explained that the occupant of the cave was a madman, and that he had lived there for many years. Shortly afterwards a man, armed to the teeth, stood across our way, and demanded to know our business. My host explained, and we proceeded. We were challenged in this manner on several occasions, and finally we arrived at the cottage. To defend the young couple from the doom that was certain to come sooner or later, every opening was barricaded, and a chain of armed Montenegrins lay around the cottage. The sound of a rifle shot in the distance brought every one of these lithe, alert Montenegrins to his feet. They determined that it was not one of their outposts who had fired; but they concluded it must be somebody—and I forget who the somebody was—who was being shot. There had been a little cattle raiding, somebody had stolen a cow, and primitive justice was being administered. It is a wild country, and an absorbingly interesting one; but it has not been the Turk or the Serb who has left the lasting memorials on the eastern side of the Adriatic; it has been the Latin races, and the descendants of the Latin races, who have been the great builders, and their works should be seen to be more fully appreciated.

I cannot close without paying my humble tribute of admiration and thanks to our Royal Gold Medallist, Mr. T. G. Jackson, R.A. He has been the pioneer through Istria and Dalmatia, and no man has contributed so largely as he to the sum of knowledge of the architecture of those provinces. I have taken the liberty of quoting very freely from his three most interesting volumes, *Dalmatia, the Quarnero, and Istria*; and by his kind permission slides from several of his beautiful drawings have been made to illustrate my paper. I am indeed grateful to him for so kindly allowing the exhibition this evening of his beautiful and unique pictures of the Balkan States. My thanks are also due to Dr. Frances May Dickinson Berry for her kind permission to reproduce some of the many photographs she has taken in the Balkan States.

And, lastly, I have to thank Mr. Hamilton Jackson and Mr. and Mrs. Holbach, and their respective publishers, for their kindness in allowing me to have reproductions made from the excellent photographs in their interesting books *The Shores of the Adriatic: the Austrian Side*; and *Dalmatia, the Land where the East meets the West.*

DISCUSSION OF MR. HUBBARD'S PAPER.

Mr. A. W. S. Cross, M.A.Cantab., *Vice-President*, in the Chair.

The CHAIRMAN said he felt that the thanks of the Meeting were due to Mr. Hubbard for his very scholarly and interesting Paper. In the adjoining room would be found a very fine and unique collection of costumes from the country upon whose architecture Mr. Hubbard had just enlightened them. Such an able Paper deserved an able discussion, and he was pleased to tell the Meeting that one of the greatest, perhaps the greatest living authority on Dalmatian architecture was present with them, and had kindly consented to open the discussion. He need hardly say that he alluded to Mr. T. G. Jackson.

Mr. T. G. JACKSON, R.A., said he was sure he was expressing the feeling of everybody in the room when he said with what pleasure they had listened to Mr. Hubbard's complete and exhaustive Paper. He (Mr. Jackson) knew Dalmatia perhaps better than any other country except his own, and it had been extremely interesting to him to hear Mr. Hubbard's account of it. It was now twenty-eight years since he first saw Dalmatia, and in that time no doubt things had altered a great deal. There were more steamers and more railways—there was but one little railway in his time, which was not joined on to any other—and travellers were probably not now exposed to the difficulties he had had to contend with in getting from one place to another. The only means of getting about among the islands was

by sailing-boats unless the traveller wished to stay a week on an island with the chance, only the chance, of a steamer calling to pick him up. There were now, he believed, Cook's Tours through Dalmatia, but he could not imagine that it would ever be a tourists' country. There was a good road from end to end, and Mr. Hubbard probably had experienced no difficulty in bicycling, but if one left the main road he did not think there was another on which a bicycle could travel. The country roads were atrocious, nothing but tracks over stony heaths, and if the traveller wandered from the path he would get his boots cut to pieces by the sharp rocks with which the whole country was strewn. He could not imagine its ever becoming an agreeable resort for merely pleasure tourists. However, with the greater number of people who visit it one could hardly help feeling some apprehension that the country would lose its primitive simplicity, in which state he had been fortunate enough to see it. When he went there first there was nothing that could be called a guide-book. The only book he could get was a little book by Schatzmayer, published at Trieste, which gave certain statistical accounts of the country, but touched very little upon anything else. There was, of course, Sir Gardiner Wilkinson's interesting book, but that did not deal very much with art. There were also those interesting and lively chapters by Professor Freeman upon some of the principal buildings, but Professor Freeman's interest ceased with the eleventh century, and his account gave no idea of what could be found after that date. There was also Professor Eitelberger's book, which went more thoroughly into it, and which was the best authority in those days for the mediæval remains and objects of interest of the country, but he did not go everywhere and was not altogether accurate. Therefore to some extent he (Mr. Jackson) had had the country a good deal to himself, at all events for the later monuments, and had had to discover for himself first what there was to be seen, and secondly the history of it. He used to sally forth perhaps in a little sailing-boat and visit some island without the least idea what was to be seen there, and except in one instance, he believed, he was never disappointed in finding things of the very highest interest. There was also the history of the country to understand, and that was very difficult. There was no history of Dalmatia so far as he knew in existence, except the very early books of the old Dalmatian historians. The history had to be hunted out in the Byzantine Greek of Porphyrogenitus and the Latin of the Dalmatian historians, which, although not of very great classical merit, at all events had the advantage of being clear and explicit. There were also the Italian writers on the subject, who were generally local historians, and the mediæval French of Geffroi de Villehardouin, and lastly, what was worst of all to him, the German. The history, when one arrived at it, was very curious indeed and very interesting. It was really dual; the history of the towns and that of the country was quite distinct. In the principal towns on the East Coast there still remained the old Latin culture. The towns themselves were to this day interesting survivals of the old municipalities of the later Roman Empire, which had never altered their character. They talked Latin, until it passed into Italian, which they talked still as their mother tongue in the towns. Outside the towns the country was peopled by Slavs, who for the most part talked nothing but Croat or Serb. In the towns the people had naturally to be bilingual; most of them could talk both languages, although there was a very strong feeling almost of hatred between the two sections, the Latin stock striving to maintain the old Latin culture, while the Slavs, influenced a good deal by the Austrian Government, tried to Slavonise the towns themselves as well as the country. That was the key to the politics of Dalmatia through the whole of the Middle Ages, and to some extent the key to the policy and the political difficulties of the country to this day. The history of the towns through the Middle Ages was something like that of the great Commonwealths of Lombardy and Central Italy. Each town had its own territory, its own government, its own laws; they made treaties with one another and warred with one another without very much reference to the supreme authority, although they were always subject more or less directly either to Hungary or to Venice, and there was a constant struggle between these two powers for the possession of the country all through the Middle Ages. Whether it was a Byzantine Prior, a Venetian Count, or an Hungarian Ban who was their nominal ruler, they had such an independence that they could deal with one another almost as independent States. They made war with one another and made treaties with very little reference to the supreme authority, although they were never able to throw it off in the way the great Lombard League did in the twelfth century, when by the Peace of Constance they obtained the recognition of their liberties from the Empire. So that the history of every town had to be studied separately, and to get at that he found almost in every place that there was some local gentleman who had devoted himself to the study of the history of his country, who had dived into the archives, which as a rule were very well preserved and very exhaustive, and who either in manuscript or in print had something like a connected history of his own town. The Dalmatians travel very little. Communication had always been difficult, and it was very rare for a Dalmatian of the northern part of the country ever to have been to Ragusa, for instance, or for a Ragusan to have gone to Traü or Zara. Therefore they had what was very interesting—that strong patriotic feeling of citizenship which was found also in the

great towns of Italy, that spirit which made the Florentines of the thirteenth century tell their architect, Arnolfo, to build a cathedral which was to surpass the cathedral of every other town. So in Dalmatia one found that the people from first to last had always struggled with a spirit of rivalry to surpass their neighbours. Mr. Hubbard had told them of one place that he (Mr. Jackson) was sorry to say he could not go to see, the old Dioclea where Diocletian was born. He wished Mr. Hubbard could have shown them a photograph of the walls and what remains there were. He did not know that there was so much to be seen there as Mr. Hubbard seemed to have found. There were one or two points of interest he might mention. One was the tracery on that little window at San Lorenzo in Pasenatico made of pierced stone. It was curious that there was in the old Saxon church of Barnack in Northamptonshire an almost precisely similar window of pierced stone. He had forgotten whether it was exactly the same pattern, but they were so much alike that one could almost imagine they came from the same church. At Grado there were windows originally, of which one remained, although not in its original place, a larger window about 3 feet across, made of the same sort of interlacing tracery. That was of concrete, not cut in stone, and no doubt it had been glazed, as he should think the window at San Lorenzo had probably been. Another thing he should like to mention was the extraordinary wealth of the whole province in the treasuries of the churches. Almost every treasury was full of the most lovely embroideries, Church vestments and cloths and different pieces of Church furniture. There was also silversmith's work, such as chalices, some of them most beautifully enamelled. Particularly, there was the pastoral staff of the Archbishop of Zara, a drawing of which was on the walls; it was most original, and he had never seen anything quite like it elsewhere. There was another something like it at Lesina, representing in the middle the Virgin being crowned by a curious sort of archangel who looked like a little chessman. Behind the Virgin was Moses bearing a scroll with the words "*Caput serpentis conteretur.*" The Virgin was standing, in pursuance of that text, on the head of the serpent, and Moses had put off his shoes because it was holy ground. On the top there was a little figure of Christ with the twelve Apostles; down the sides were the different Prophets, below that were the Patriarchs, below that again the four Evangelists, and below that again were little engravings of the six days of Creation. It was in itself a small Bible. Most of those pieces of silversmith's work were of Venetian origin; some of them in the South bore the mark of Ragusa. Among the latter was a very remarkable chalice with two angels attached to it—the angels had lost the little wings that fitted on their shoulders—which was strongly influenced by Venetian art. There was a great deal of silversmith's work in Zara. Of the great silver ark of S. Simeone there was a copy in the South Kensington Museum; the name of the maker, Francesco of Milan, was upon it; and in one or two cases he found some German plate, but most of it no doubt was of Italian origin. There was also on the wall a drawing of some Slavonic plate from a Greek convent in the Bocche di Cattaro which at the first glance would be thought to be Byzantine work. They were all dated by the Slavonic calendar according to the Slavonic era, which dates from the foundation of the world. It had been difficult to find out what the real date was, but a clue had been found which proved them all to be seventeenth-century work, although they were so archaic that one might well imagine them to be of the seventh or eighth century. The Slav architecture was very humble. The churches were extremely small; the cathedral of Nona had a dome of eight feet seven inches in diameter and a total length of twenty-five feet, and the cathedral church at Cettinge in Montenegro, where the Vladika was crowned, would, he thought, go inside their Meeting-room. Their architecture was really nothing. There were Slav artists, but he believed they were all naturalised in the cities of the coast; they became Latinised and produced very fine work. The portico at Traü, which was the finest in the country, bore the name of an architect which sounded very like Slavonic. So that the art of the country really came from the Latin or Latinised population of the cities. The only fine church in the interior, so far as he knew—he had not seen it himself, it would be difficult to get there now without having one's throat cut—was at Deshanj, which was in Old Servia, and that was built by Italian architects.

Mr. R. PHENÉ SPIERS, F.S.A. [*F.*], in seconding the vote of thanks, said that Mr. Hubbard's Paper had been of the greatest possible interest. Its range, however, was so great that he found it difficult to refer to more than one subject, and that subject he wished to dwell upon in order to correct (as Mr. Hubbard himself had already done to a certain extent) an erroneous impression which seemed to have gained ground. The first statement was when he referred to the building of the Diocletian Palace thus: "But it is the originality in its detail and the striking development in its construction that singles this building out from all others as exerting a greater influence upon subsequent styles, either Romanesque or Gothic, than any other building in the whole history of architecture." Freeman pronounced it to be "the greatest step ever taken, the beginning of all later forms of arched architecture, Romanesque, Gothic, or any other." Freeman was not, of course, acquainted with the discoveries which had been made during the last forty years in the East, and amongst other works that of the Comte de Vogüé, which

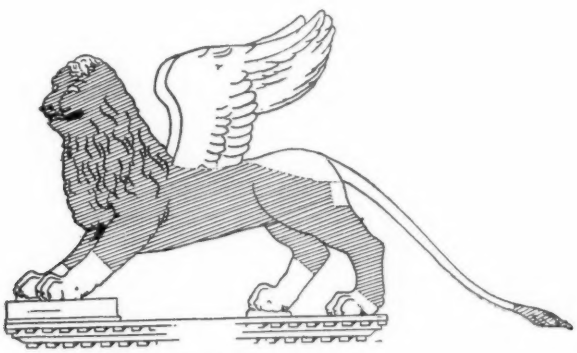
entirely upsets all those theories. These later publications had shown that it was really in the East that all these changes began, and it was Oriental influence which originated the Palace of Diocletian. Strzygowski, the great authority on the subject, had written a work, *Orient oder Rom*, in which he proved that nearly all the new features found in these later Roman buildings were derived from the East. He even claimed that the plan and design of this Palace of Diocletian at Spalato was based upon that of the city of Antioch; that the arrangement of the towers was the same as at Antioch; and he was certain that an architect from that city must have come over to superintend or to give some advice about the design of the Palace. Of course that was entirely another view on the subject, and one upon which he (Mr. Spiers) desired to lay stress. There were four characteristic features in the Palace of Diocletian which were different from those found in Roman architecture. The first three of these were mentioned by Mr. Hubbard, but the fourth was not, and he would take that first. It would have been noticed probably that in the view which Mr. Hubbard showed from Adam's work of the Golden Gateway, the relieving arch was accentuated and accepted as a feature, and was moulded like an architrave. The Romans constantly employed the relieving arch over the lintels of doorways, but never emphasised or decorated it. This treatment at Spalato was the earliest in Europe, but in the second century of our era and in Syria there was an example which showed that arch even more strongly developed. At Kefr Birim was a synagogue of the second century, of which he had brought down a photograph. The second feature was the arch resting direct on the capital. It was Choisy who first upset that theory, because he pointed out that at Pompeii there was an arch resting on a capital, and he gave an illustration of it on page 514 of his work. In that case the capital was of the Doric Order. If in Pompeii an early instance of it was found, it was certain that it must have occurred at other times during the Empire. The third feature was the carrying of the arches over the detached columns of the Porta Aurea. Mr. Hubbard was quite right in stating that at the Baths of Titus there were brackets carrying columns as a feature of decoration which was subsequently employed in the Thermæ of the later Roman Emperors. Mr. Hubbard was also right in saying that, compared with Rome, the carrying of arches on the top was an unusual feature. These, however, existed in Palestine dating from the second century, as in the temple at Quennonat. The niches at Mousmieh had arches carved on pilasters which were very much the same and suggested a similar idea, and there was also a niche at Chaqqa. He had brought a slide of the Prætorium at Mousmieh, which he would show presently if they would allow him. The fourth feature was perhaps the most important of all, and that was the carrying the arch across the central intercolumniation instead of the architrave. The drawing of Adam had been referred to as showing the earliest example, but examples of the second century existed at Damascus, and in two temples at Atil, and he was of opinion that the Propylæa and the Temples of Jupiter and Bacchus at Baalbec also had it on account of the greater width of the central intercolumniation. Of the existing example at Damascus he had brought down a photograph, and he had a slide of one of the two temples at Atil if they would like to see it. He thought it desirable to emphasise these points in order to correct the opinion generally received, and to show that as a matter of fact Oriental influence must be looked for in these features, and that it was Oriental influence which led to the great changes to which Mr. Hubbard had referred.

Mr. Spiers's slides were then shown upon the screen, and the points in question called attention to. The first slide showed Atil, which, he said, was the earliest dated instance he knew of, viz. 151 A.D., the inscription being on the base of the column. Consequently, it is 150 years earlier than the example Mr. Hubbard showed in the Palace of Diocletian at Spalato. The second slide was of another Syrian building, viz. the Prætorium at Mousmieh, which was built in the reign of Marcus Aurelius between the years 161 and 180 of our era, and in this case the arch was segmental.

DR. ARTHUR EVANS, F.R.S. [*H.A.*], who rose at the invitation of the Chairman, said that he had been in the past a good deal acquainted with Dalmatia, but that was nearly twenty-five years ago, and he had come rather to refresh his memory. One thing to be borne in mind was that the architecture was to a great extent dependent on the physical and geographical conditions of the country. The sea-coast of Dalmatia was admirably adapted for the development of commerce. It was sheltered to a great extent from the terrific N.E. wind of the interior, and lay on what was in prehistoric times the great line of intercourse between North and South, between Greece and Central Europe and the Far North. The result was the civilisation of the coast of Dalmatia began very early. In the eighth century Corinth sent out colonists in that direction at Corcyra, and then there was a new Corcyra planted on the Dalmatian coast. The tale was next taken up by the great Syracusan Emperor, as one might call him, Dionysius, who was a kind of forerunner of the Roman Emperors. One of the pivots of his policy was the establishment of a great chain of Adriatic posts. Thus we see that civilised life on the coast went back very early indeed. Relics had been found showing that it went back four or five centuries before Christ, although no great architectural remains of Greek origin had been

discovered. Then came the Roman Conquest. One thing to remember was that the inner culture of the Balkans, which was in the early times Macedonian, hardly touched the coast. The Macedonians conquered India before they really got a grip on what is now Albania. When Byzantium ceased to be an Adriatic power its influence ceased. The Slavo-Byzantine architecture of the Hinterland never touched the Dalmatian coast. Neither did the Turkish. On the other hand, the parallel ranges of the Dinaric Alps opened a comparatively convenient access from the north-west. The two forces that were thus perpetually contending on the Dalmatian coast were the maritime Adriatic element, and what is now represented by Hungary and part of Austria. This was what was running through the whole story that Mr. Hubbard had illustrated that evening. These two influences alternated. There was first the great hold of Rome. Rome, of course, to a certain extent, overrode the barriers of Nature, carried great roads into the interior, opened up the rich gold and other mines, and extended the true Dalmatia right away over Bosnia and Herzegovina; but when Rome passed away the interior relapsed pretty rapidly into barbarism. Only the cities of the coast held out. The great Palace Castle of Diocletian was interesting in one special way which had not been noted that evening: it was the last stronghold of the Western Empire at the time when the Western Empire had ceased elsewhere Julius Nepos, who was really the last Emperor, held out for a while within the walls of the Palace of Diocletian. Then took place the great Avar overthrow. It would be interesting to remember that the Chapel of St. Venantius in the Lateran was one of the last monuments of Roman Christian Dalmatia. Pope John IV. was a Dalmatian, and he seemed to have carried the Lares and Penates of Christian Dalmatia to a great extent across the Adriatic. This chapel was a sort of parallel to Sant' Apollinare at Ravenna. On its walls is to be seen the city of Salona in the aspect of the Heavenly Jerusalem. Just as the Bora, the most terrific wind in Europe, came up the Dalmatian valleys, alternating with the balmy south, so the northern influence had always penetrated. When the Carlovingian Emperors checked the Mongol invasion, overthrew the Avars, and subdued the Slavs, we see this influence beginning. No one had borne better witness to this persistent northern influence than Mr. Jackson, who had called attention to the continuous Hungarian influence on Dalmatia through a large part of the Middle Ages. The great church at Traü, for instance, with all its Adriatic details, showed in its plan a good deal of the influence of the Hungarian and South German churches. Then, again, there was the alternating influence of Venice, and Venice was so strong that Venetian influence to a great extent finally drowned the independent element in Dalmatian art. It drowned the native dialect of the Dalmatian, which, oddly enough, was not Venetian to begin with, but fitted on more closely to the dialect of Friuli, and was, in fact, a dialect which was in some respects hardly Italian. All these things, wind and weather and the lines of mountain ranges and islands, had to be taken count of in considering the successive phases of Dalmatian architecture.

MR. HUBBARD, having briefly responded, invited the Meeting, especially the ladies present, to inspect the native costumes and various examples of needlework, gold lace, arms and jewellery from the Balkan States, which Mr. Jackson and he had lent for the occasion, and which were displayed in an adjoining room.



The Lion of St. Mark on the column in the Piazetta, Venice, as restored by Cav. Boni. The hatched portion shows the original work.

TOWN PLANNING.

PAPERS COLLECTED BY THE R.I.B.A. TOWN PLANNING COMMITTEE.

XIV. EXTRACTS FROM THE TWENTY-FIRST ANNUAL REPORT OF THE CITY PARKS ASSOCIATION OF PHILADELPHIA.

In the Mayor's last Annual Report the proposed outer park system presented by the City Parks Association was adopted with a number of important additions.

This adoption is the signal triumph of the past year. The adoption of the plan has been accompanied by a series of ordinances acquiring parks big and little. The work of this administration in the matter of city parks deserves the highest commendation. Certainly no administration has given anything like the active support to the movement to further which the Association was formed, that has been given by the administration of Mayor Reyburn.

The Mayor has likewise adopted the policy of preparing for the city's future growth. He said in his report:—"All the larger municipalities of America are striving to raise the standard of municipal beauty and combine art with utility. To develop a highway here and there, to adopt this and that suggestion, no matter how good it may be, will ultimately lead to confusion and the resultant re-doing of what has been done. The process of civic development is of greater importance potentially than the administration of what the city has already acquired. I, therefore, earnestly recommend to your consideration the plans for the development of the city hereinafter outlined. Constructive work calls for more careful consideration and more skilled study of the probable growth of the city than mere administration. I have devoted much of my thought to the city's future and to the present necessity of preparing for that future. A comprehensive, broad, and general plan of civic development of elasticity to meet the varying conditions which may confront successive administrations should be developed."

With this need of the city for a comprehensive plan, with this competition among cities in the adoption of broad plans of civic development, with this strong endorsement by the city administration of the demand for such a plan, the City Parks Association of Philadelphia begs to recommend a definite scheme. It is as follows:—

Let $50,000 be appropriated for the expenses of a Commission to be composed of Daniel H. Burnham (the expert of the Chicago, Washington, San Francisco, and the Manila plan), Frederick Law Olmsted (landscape architect of the Washington, Seattle, Portland, and other plans), Messrs. Trumbauer, Zantzinger, and Cret (the three experts who prepared the plan for the Fairmount Park Parkway now adopted by ordinance as hereafter reported), George R. Stearns (Director of the Department of Public Works), and George S. Webster (Chief of the Bureau of Surveys).

Let the work assigned to this Commission be to prepare a plan for the systematic development of the region within twenty-five miles or more of the City Hall.

Let the report cover transportation, the street system, the river front, parks, playgrounds, civic centres, so that there shall result (1) the preservation of the system of two-story houses; (2) the creation of a greater commercial city; and (3) the beautification of the entire city and its suburbs.

THE FAIRMOUNT PARK PARKWAY.

We have referred to the Fairmount Park Parkway. It is a pleasure to report that the plan created by the Fairmount Park Art Association, and endorsed by your Association, was adopted by the Mayor in his annual message and definitely urged upon Councils, and that Councils have since that report ordered it to be placed upon the official city plan, which was done by the Bureau of Surveys on 20th September 1909. The recommendation of the Mayor, which has thus been carried out, is as follows:—

"The Fairmount Park Parkway is one of the greatest undertakings that require immediate consideration, and I cannot urge too strongly the importance of securing at the earliest possible date the revision of the lines of the Parkway so that it shall agree with the best thought and shall realise all the possibilities it presents.

"The necessity of providing an outlet for Fairmount Park and for the congestion around City Hall is self-evident. To produce the greatest economic value from the development of this section of the city, whereby the return to the city will be measured not only by the enhanced real estate values immediately adjacent thereto resulting in increased taxation, but whereby the whole city will be benefited, the undertaking must be along lines that will secure the highest class of structures. It is perfectly evident that this can only be accomplished by producing a great and beautiful avenue and controlling the character of the improvements. There has never occurred in this country, or possibly in Europe, so extraordinary an opportunity. A great City Hall is separated by barely a mile of fairly level and cheaply developed property from a great rock, an 'Acropolis' available for a municipal museum at the gateway of a famous park belonging to the city. The nucleus of a collection is waiting to be put in this museum. It would seem an ideal condition. Added to this, the city already owns a large strip of territory which would border the northern lines of this avenue and thereby insure

at once the ability of the city to attract monumental buildings of public or semi-public character.

"Beginning at the City Hall the character of the buildings around the City Hall Plaza suggests itself at once as being those which naturally are connected with the city government, such as the New Hall of Justice or Court House.

"The two blocks of 140-foot roadway between the City Hall Plaza and Logan Square will naturally tend to develop in a semi-commercial way, such as hotels, theatres, clubs, and high-class st res; this is apparent, owing to its proximity to Broad Street Station. It will be a short avenue, and somewhat similar to 'Unter den Linden.' There will begin at Logan Square and extend to Fairmount Plaza an avenue 250 feet wide, patterned after the Champs Elysées, with public and semi-public institutions, such as the Franklin Institute and the Public Library, grouped on the northern side, surrounded by ample parking space. Large private residences and apartment houses will probably be on the south side of the avenue in this section.

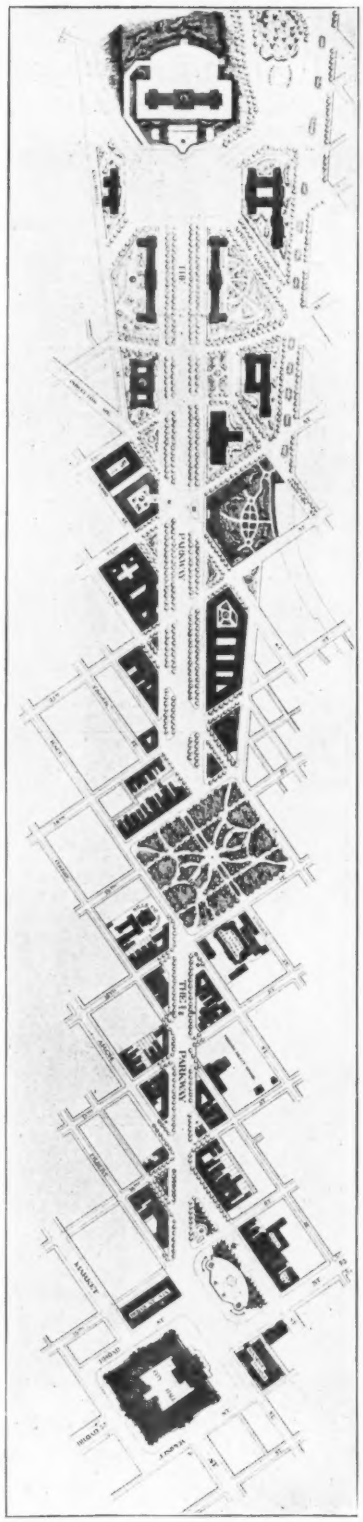
"Directly on the axis looking from City Hall Tower beyond the Fairmount Plaza and high above the avenue of trees will be seen the great golden dome of the Municipal Museum. Flanking and enclosing the great square may stand the Pennsylvania Academy of the Fine Arts, the Pennsylvania Museums and School of Industrial Arts, the Architectural Department of Public Education of the City of Philadelphia. These four great teaching institutions, surrounding the museum—the storehouse of the art treasures of the past, the inspiration of the future—would create a group that would command the attention and support of the entire country."

The following is quoted from the report of Director Stearns, of the Department of Public Works:—

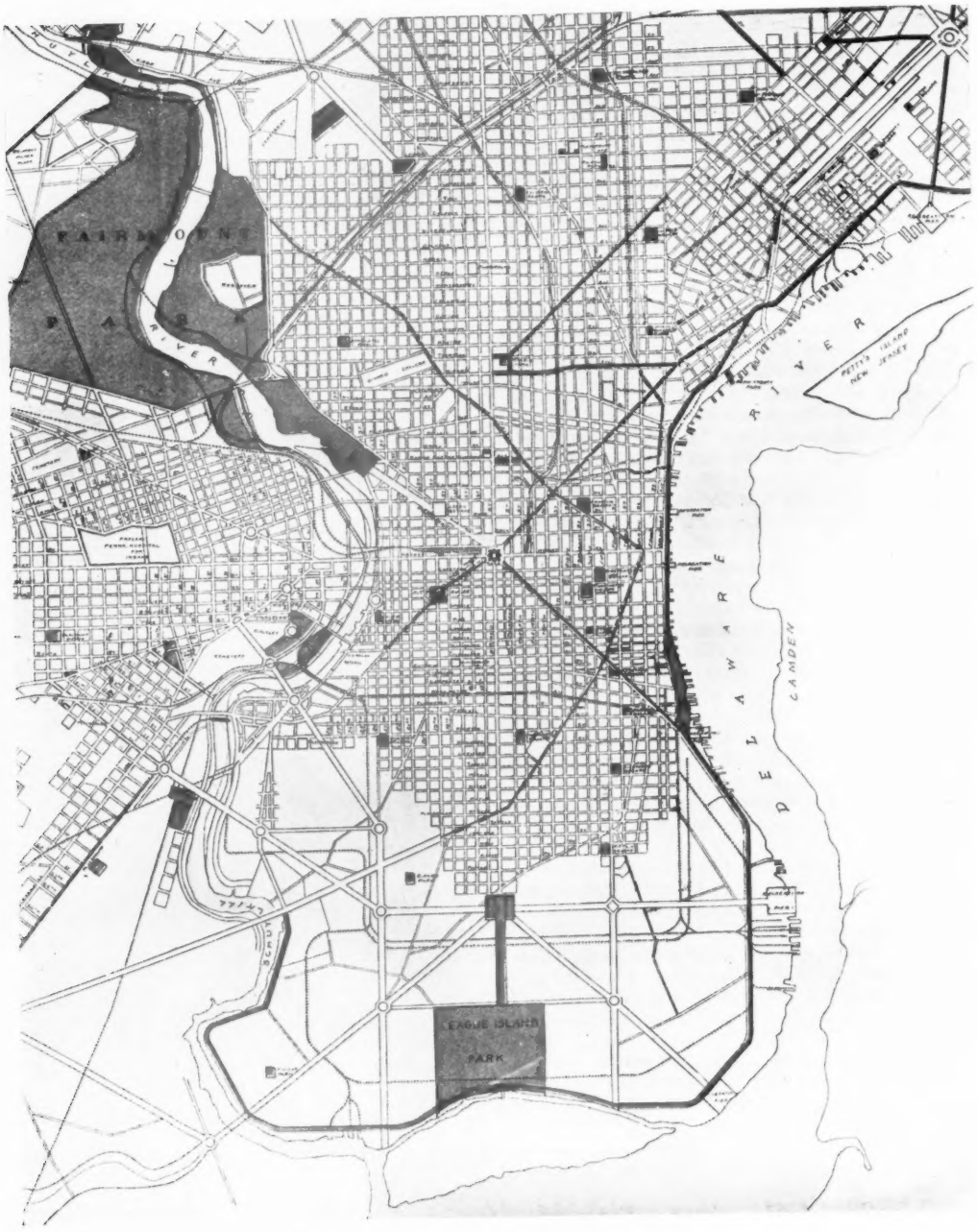
"When this improvement is completed, it is confidently believed that this city will possess one of the most imposing thoroughfares in this country. The present conception is to have the parkway lined with beautiful structures, such as art galleries, museums of various kinds, technical and educational institutions, and possibly a municipal building to contain the Courts of Justice that are now housed in the City Hall.

"The history of all municipalities has proven the value of constructing parkways and wide boulevards. The money expenses for such purposes is always well invested, as beautiful avenues of this character bring in not only a splendid revenue but have a tendency to promote the artistic temperament of the community at large."

The adoption of the parkway plan, as recommended by the Mayor, is the chief event of the year in Philadelphia, and so far as official action is concerned is the chief event in the year's



PLAN OF THE PARKWAY: CITY HALL TO FAIRMOUNT PARK, PHILADELPHIA.



PLAN OF MUNICIPAL IMPROVEMENTS SUGGESTED FOR PHILADELPHIA.

municipal history of the United States so far as physical development is concerned.

. . . . . .

Second only in importance to the Fairmount Park Parkway is the improvement of the banks of the rivers—the Delaware to make it a great commercial way, and the Schuylkill a great pleasure and business thoroughfare. This has been recommended repeatedly in the past few years. During the last year it appeared in the thought of the city officials for the first time so far as public utterance was concerned. With knowledge of what has been done, however, we are glad to say that the matter is receiving, and has been continually receiving for some time, the constant attention of the Survey Bureau. The Mayor's report says :—"The work of widening and repaving Hunting Park Avenue will be prosecuted to completion in the early part of the year. If this Avenue was carried westward to Fairmount Park it would make a splendid driveway *viâ* the North-east Boulevard to Torresdale, and, taken in connection with the South Broad Street Boulevard, the proposed improvements of the Schuylkill River, and the parkway improvements, would result in giving Philadelphia a chain of driveways the equal of any city in the world."

Reference to the map will likewise show the diagonal avenues which the Mayor suggests. These must come in time. The parkway will blaze the way for them. In regard to these streets the Mayor said :—"The importance of the street system cannot be over-estimated. Upon it depends the facility of intercommunication between all sections of the city. With the growth of the population the congestion in the central portions tends to become greater and greater. In order to be prepared for this growth the means of transit from the outer circle of the city to the centre must be adequately increased. This can be done by diagonal thoroughfares. The plan that is submitted herewith shows proposed diagonal avenues from City Hall, the extension of Ridge Avenue and Passyunk Avenue to the vicinity of the water-front at Market Street, and an extension of Kensington Avenue down to Broad Street.

"It is obvious that these improvements cannot be carried out at once. They will have to be carried out in the future. Other cities place such streets upon their official city plan and open them from year to year as opportunity offers. In Paris many of the new streets have taken twenty years in their construction. One, two, or three blocks are opened each year. In this way the burden is distributed and is not felt, while the city meets the need of more streets owing to the growth of the population as that growth takes place.

"The mistake of previous engineers in not planning diagonal avenues should be avoided in outlying sections. For instance, the plan shows a suggested street crossing the eastern section of the city from Germantown to Richmond in place of the zigzag line that must be followed now. Further, the plan shows connections of certain of the parks by means of diagonal parkways."

In closing the Mayor recommends as follows :—

"I beg to recommend that the Bureau of Surveys be authorised and directed to follow the general plan outlined in the accompanying map, and I further recommend that parkways be placed upon the city plan and opened as the means of the city allow. In suburban districts I approve the policy of the Bureau of Surveys in laying out not only diagonal avenues, but in having the general system conform with the natural contour of the ground, making beautiful and attractive avenues. When diagonal avenues are introduced their intersections with the gridiron system of streets will form a number of opportunities for locating at such intersections the circular parks that make Washington so beautiful."

In this official recommendation of the plan for an outer park system, diagonal streets, and the preparation of a comprehensive scheme of civic development, there is contained the greatest promise for the future that the annual reports of this Association have ever been able to record.

XV. EXPLANATION OF THE BUILDING PLAN OF MARIENBERG.

[Translated from *Der Stadtbau*, No. 10, 1904.]

The principles on which the linear direction of streets was based is :—

1. *To aim at as many and as valuable building lots as possible*, for the whole building surface of a town is a large public and private fortune that once squandered by a badly designed plan is irretrievably lost. Therefore it is important that all building lots should have as much street frontage as possible ; that each should be of such a shape and size as experience has shown is advantageous for building on ; that, generally, different-sized building plots should be distributed, and at the periphery of the building land they may be larger, so that later on, in case of need, they could be divided up again, though on the whole more small building lots are advisable, because, if need be, a builder who wants more space can easily buy several such plots which are close to one another.

2. *To aim at good correspondence with the existing lines of intercommunication.*

3. *The designing of good intersections of streets.* This is a very important matter, which has been generally very much neglected by engineers and geometricians, who have frequently undertaken the drawing of plans without having had much experience of building. If the street lines are geometrically drawn with a rule in a pattern according to their assumed direction, frequently acute-angled junctions of streets, and therefore also acute-

angled corner houses result, for which it is not possible to make an economically satisfactory plan. The only way to avoid these acute intersections is by making curves or breaks in the side streets, so that they run into the main street at right angles. In building such cross streets difficulties are frequently met with which can only be got over by the formation of small squares. These small squares, so far from being a disadvantage, are an ornament to the town as a whole, an improvement in communication and orientation, and add considerably to the value of the surrounding building plots.

4. *The careful regard for the boundaries of landed property.* If plans designed with geometrical precision were given up and the street plan designer would draw his plans in conformity with existing property boundaries, it would remove many of the difficulties and obviate the necessity for compulsory measures (*vide* German redistribution laws.)

BLOCKS OF BUILDINGS.

The principles observed were:—

1. A regard for every possible means of using building ground profitably (from the financial point of view).

2. A regard for a certain amount of freedom in order to allow for the possible building requirements of the future.

3. Besides cutting up the building space into as long and narrow strips as possible (Olmutz System), larger building blocks may also be adopted, these proportionably distributed to the different building groundowners. This is indispensable, in the interests of free development in the future, in order to obtain larger "inside spaces" free from dust and noise, and larger building surfaces, in case they may be required for gardens, playgrounds, skating rinks, bicycling grounds, larger workshops, factories, baths, washhouses with drying grounds, &c. &c. Such "inside spaces" may provisionally be profitably and suitably surrounded by rows of houses with only two streets at least opening into them.

REVIEWS.

M. CHOISY'S VITRUVIUS.

Vitruve. By Auguste Choisy. 4 vols. 4o. Paris, 1910. Price 60 francs. [Imprimerie Librairie Lahure, 9 rue de Fleurus, Paris.]

This important work, to which the late Auguste Choisy devoted the last four years of his life, has just been published, and a copy has been sent to the Institute. As already mentioned in the JOURNAL [25 Sept. 1909] the first two volumes were printed off before his death and the other two had been corrected and passed by him for press. The first volume is a general analysis of the contents of Vitruvius' work *De Architectura libri decem.* The second and third contain the Latin text with Choisy's translation of it into French, side by side, to which have been added passages from other Latin authors, such as Pliny the Elder and Faventinus and Palladius, writers of the fourth century. The fourth and last volume contains Choisy's interpretation of the drawings, some of which are referred to by Vitruvius as constituting part of his work but which have never been found. Let us hope that when Herculaneum is excavated a complete copy may be one of the discoveries.

There have been so many translations of the text published since the fifteenth century, when the MS. was found, and in various languages, that it might be possible by comparison of one with the other to arrive at some general conclusion not far removed from the truth; but Choisy's intimate acquaintance with Roman architecture, his minute study of the methods of building employed by the Romans, and his practical knowledge as an engineer of the "Ponts et Chaussées" give him a greater claim to accuracy in his translation than any other writer on the subject. This is borne out by the analysis of the first volume, which is a general summary of the results arrived at by him after long and careful study of Vitruvius, and forms an exceptional work of its kind, which will be of the greatest value to students, accompanied as it is by the plates of the fourth volume illustrating his interpretation of Vitruvius' drawings. It has already been pointed out in the biographical notice that the last four years of Choisy's life were devoted to this subject, but the conclusions arrived at are those based on the minute study of more than fifty years of one who when barely out of his teens had showed a remarkable talent in independent researches. In the five great works already published, (1) *L'Art de bâtir chez les Romains* (1873), (2) *L'Art de bâtir chez les Byzantins* (1883), (3) *Etudes épigraphiques sur l'Architecture Grecque* (1883–1884), (4) *Histoire de l'Architecture* (1889), (5) *L'Art de bâtir chez les Egyptiens* (1904), Choisy would seem to have possessed the peculiar power of condensing into a single sentence that for which most writers require pages, and also of representing graphically with a line or two that for which draughtsmen would want elaborate diagrams; when we note, therefore, that the analysis alone contains 386 pages (as set forth in the prospectus) it becomes a hopeless task, without many weeks of study, to attempt to note properly the work just published.

The treatise of Vitruvius would seem to have been written as a guide for the architects, builders, and craftsmen of his day, who, it may be assumed, were fairly conversant with the materials in use and the ordinary methods of construction, and had probably a vague notion only of architectural design; it follows in consequence that there are gaps in his descriptions, and sometimes portions of the original text missing, and although at the present day our knowledge of construction is far ahead of that of Republican Rome, of that which existed when Vitruvius wrote his work we know but little. It is precisely

here that Choisy comes in and is able to fill up in his translation the various gaps in the original work, partly from the works of other authors, and partly from his own archæological researches. The additions made in the French translation are enclosed in brackets so as not to interfere with the original text; and where the original text is defective notes are entered at the bottom of the page, and sometimes with references to other authors.

It is, however, the analysis which will be regarded as Choisy's masterpiece, and it is only necessary to glance at the frequent references throughout to book and chapter in Vitruvius to recognise that the latter must have been a man of extraordinary accomplishment, not only as a scholar, architect, and engineer, but as possessing to a great degree that peculiar power of conciseness which is possessed by his translator. Where, however, Choisy's analysis is likely to be of more service to the student lies in its classification. It has always been a difficult task, even with an index, to find some of Vitruvius' statements, but Choisy, who knows his book or treatise by heart, brings the various references together. In page 7, for instance, two paragraphs of twelve lines explain clearly the kind of brick employed in Vitruvius' day—viz., unburnt or crude brick with the exceptional use of burnt brick or tile, and he gives as his authority three references to Books I., II., III., V., VII., and VIII., which show that Vitruvius' remarks on the same are spread through the treatise. A similar system is employed throughout Choisy's analysis, and although the statements are much more detailed than in Vitruvius, whose meaning has often to be explained, references to the original text are always given. In Vols. 1 and 2 of Choisy's work the complete translation of the text is given, which includes that of all the technical terms; in the analysis these are emphasised, which becomes of the greatest importance when dealing with the construction of walls, floors, and roofs, or with the description given by Vitruvius of the Orders, and those are all rendered more clear by the plates prepared to illustrate the analysis. The most valuable part of this will be that describing the Orders, which are in some cases widely different from those of Vignola and Palladio, who drew their interpretation from the remains of ancient Rome existing in their day, all dating from the Empire to the fourth century, and therefore quite unknown to Vitruvius. There is one trifling error which has crept into Choisy's description on page 172 of the Temple of Jupiter Olympius at Athens, the plan of which he infers was octastyle when Vitruvius wrote his treatise, but was *subsequently rebuilt on a decastyle plan*. If Choisy had read Penrose's Paper read at the Institute in 1888, in which he proved conclusively that the existing remains were those of an octastyle temple built in the central axis of the great enclosure of the temple, he would not have added this statement, which otherwise was not necessary to his text.

Choisy's great mathematical knowledge has enabled him to deal with calculations which are perhaps beyond the calibre of the ordinary student, such as those set forth by Penrose in his work on Athenian architecture; it is, however, this knowledge which has made it possible for Choisy to describe and illustrate the principal engines employed in warfare by the Romans; they are, of course, more archæological than architectural, but they would have been of the greatest possible interest to Napoleon III., who employed Viollet-le-Duc to make restorations of these machines, which are now located in the Museum of the Palace of St. Germain-en-Laye.

In his work, *Etudes épigraphiques sur l'Architecture Grecque*, where he translated the Greek specification found on a marble slab at the Piræus of the great arsenal there built, and gave a restoration of the building, Choisy showed himself to be a profound scholar in Greek. To this work of Vitruvius he adds a translation of a Latin inscription on a building erected at Pozzuoli about 105 B.C., and gives a restoration of the structure, which shows that he was equally proficient in Latin. The loss of a great author is never felt more than when he is taken away from us, and, had it not been for the unfortunate accident which befell him at Rheims and led subsequently to his death, we might have hoped that he would have been spared many years more to enlighten us on subjects of which he was the greatest master.

R. Phené Spiers [*F.*], F.S.A.

OLD ENGLISH MANOR HOUSES.

The Manor Houses of England. By P. H. Ditchfield, M.A., F.S.A. Illustrated by Sydney R. Jones. La. 8vo. Lond. 1910. *Price* 7*s.* 6*d. net; post free* 7*s.* 11*d.* [*B. T. Batsford*, 94 *High Holborn, W.C.*]

Mr. Ditchfield is well known as a writer of popular books with an antiquarian tendency, and in *The Manor Houses of England* he discourses in his fluent and pleasant way of the charming homes which survive in many of our villages. He purposely refrains from going profoundly or too technically into his subject, but he skims over its surface in a skilful manner. His method of treatment is good: he devotes a chapter to the manor itself, another to the evolution of the manor house, others to the materials of construction, exterior and interior details, metal-work, and gardens. The casual reader will be interested without being overwhelmed with a display of learning; the architect will have his interest sufficiently roused, it is hoped, to pursue the subject more fully, and in any case he will be highly pleased with the illustrations (by Mr. Sydney R. Jones), which comprise, for the main part, houses hitherto known to few.

Mr. Ditchfield is evidently acquainted with most of the recently published books bearing on this subject, and he has absorbed, apparently, some of the prejudices as well as the knowledge of the

writers. The disparagement of the larger Elizabethan houses, as contrasted with manor houses, the assumption of a general but unskilful use of German pattern-books by Elizabethan workmen, are hardly justified by a dispassionate review of the facts; while the idea, which one gathers by implication, that Northamptonshire examples have anything to do with the Cotswolds would be dispelled by a tour through those widely sundered districts. It may also be doubted whether the English squire of Tudor times, or indeed of any other, was the gifted and artistic person suggested. If he clung to traditional style, it was less from æsthetic motives than because the workmen he employed knew no other way. There are few things more clearly established than the fact that in all periods squires and others, when they came to building or altering their houses, hankered after the most modern fashions, and adopted them so far as their means and opportunities allowed.

It would be ungracious, as well as unnecessary, to follow the author through his chapters and argue every disputable point; but in the matter of chimneys he seems to share the prevailing misconception that the fireplace was the successor to the central hearth. In a way, of course, it was—that is to say, the central hearth was the earlier form, derived from ancient wooden buildings which may be likened to wigwams with an opening at the summit whence the smoke escaped. But wall fireplaces are found in early Norman keeps, where indeed they were essential, inasmuch as only the uppermost floor could have a vent in the roof, and central fireplaces were adopted in new houses as late as the reign of Henry VIII. For some four centuries, therefore, both forms were in use simultaneously.

Architectural readers, however, will be less concerned with such controversial points than with the straightforward information conveyed—with the gradual growth of the house, with the apt use of local materials, imparting an ever-varying interest as we move from county to county, and with the suggestive descriptions of the architectural details which enrich these old places both inside and out. Above all, he will be grateful for the illustrations, daintily drawn and conveying a vivid impression of the wonderful wealth of England in ancient houses of all styles and periods. There is this advantage in the scope of the book, that not being an architectural treatise, the finest and most striking examples are not necessary to give point to its lessons. We get, therefore, a number of those delightful ancient homes in which picturesque grouping and variety of treatment, rather than architectural detail, afford the chief interest, and all architects will be glad to make the acquaintance of so many fresh subjects. Mr. Batsford is to be congratulated on his latest contribution to our knowledge of domestic architecture in England.

J. A. Gotch, F.S.A. [*F.*].

BUILDINGS FOR FARMS AND SMALL HOLDINGS.

Handbook of Farm Buildings, Ponds, &c., and their Appurtenances. By Thomas Winder, Surveyor to the Duke of Norfolk's Yorkshire and Derbyshire Estates. With a Chapter on the Application of Electricity to Farming and Agriculture, by J. W. Beauchamp, Deputy Manager of the Sheffield Corporation Electric Supply Department. 8o. *Sheffield*, 1908. *Price* 6*s.* 6*d. net* [*Pawson & Brailsford, High Street and Malbery Street.*]

Buildings for Small Holdings. Materials, Cost, and Methods of Construction. By Thomas Potter, Author of "Concrete: its Use in Building, &c." *Small* 8o. *Lond.* 1909. *Price* 3*s. net.* [*B. T. Batsford*, 94 *High Holborn.*]

These two works are complementary to each other. Treating of buildings for model farms and ordinary farms of probably from 200 to 500 acres in extent, Mr. Winder's valuable work is an exhaustive treatise of the subject; while Mr. Potter's smaller publication deals with buildings of humbler character that may possibly be called into existence by the Small Holdings Act recently passed into law.

The homestead, as we know it in this kingdom, is the outcome of the slowly developing requirements of centuries. As illustrative of this, compare the primitive dwelling at Fulwood Head (p. 58), when farmer and cattle dwelt in close proximity under one roof, with the modern Whitewater (p. 91), or the smaller example, Beighton (p. 95). It would perhaps be fairer to compare Fulwood Head with the buildings, plans of which are given in Mr. Potter's work, and Whitewater or Beighton with the monasterial grange of Kirkstead (p. 120 and frontispiece); unfortunately no plan of the last-named is given us, but the photographic illustrations indicate buildings of no mean extent.

The growth of modern improvements in farm buildings is not accompanied by a similar improvement in the farmhouse itself—indeed, the plans given seem a retrogression rather than an advance upon older houses, and the order of precedence that will probably strike the reader of this book, or of that published some twenty years ago by Mr. Dudley Clarke, is, first and highest, horses, cattle, and pigs; next the farm workman, whose modern standard of comfort is illustrated by the plans of four good cottages of varying types; third and lowest, the "master" himself, whose wants are met by a six-roomed enlargement of the six-roomed cottage shown on plate 53.

Farmhouses are—like their occupants—of course of many grades, varying from the mansion to the proverbial "starvecrow," but the better-class farmer does nowadays understand the use of a bath; he and his family do appreciate modern sanitary conveniences within the walls of the house itself, and, where he is also the owner of the land, he contrives (agricultural depression notwithstanding) somehow or another to supply himself with them.

Mr. Dudley Clarke considered one w.c. (no bath-room) to be sufficient for the house of a tenant paying £500 rent and over per annum. Mr. Winder's working farmer has to do without that. A town artisan or clerk able to pay £30 per annum would scarcely look at a house which did not contain both; and the fortunate occupant of a Garden City cottage costing £150 to £200 to build has to endure them whether he wants them or not.

Plans of useful cottages are given, and the author regrets, as do most architects who have had to build them, that stupid by-laws make it impossible to construct them of wood; possibly under the practice necessitated by the Small Holdings Act this restriction may disappear. It will be noted that their life is put at 25 years, but instances could be quoted of several nearer 200 than 25 years, and still or recently quite habitable.

A wise fondness is expressed for the use of local materials, and the student should take to heart the fact that they have a peculiar fitness for the district to which they are indigenous.

Mr. Cowell, of Soham, and others contribute notes upon the art—now approaching extinction—of thatching; Mr. Beauchamp, of Sheffield, a chapter upon electricity as applied to farming and agriculture; cattle-sheds, stables, and their fittings are minutely described and illustrated, as are also their drainage and water-supply (the rain-water tanks, by the way, would be improved greatly by the addition of small filter chambers); and the smaller accessories, dovecotes, fowlhouses, piggeries, walls, gates, paths, all—even an artificial fox earth—find a place in this very useful and practical book.

Mr. Potter's work deals with buildings suitable to farms not exceeding 50 acres in extent. Small farms, both freehold and otherwise, of a somewhat larger acreage were not by any means unknown before the passing of the Small Holdings Act—an Act which, while attempting to create and plant upon the land a class of municipal tenants, has not provided the municipality itself with either the means or the information necessary for the solution of the problem in an altogether satisfactory manner. The purchase price of land, the ever-increasing cost of building, the clumsy bureaucratic ideals embodied in model by-laws, all add to the difficulties of the County Councils, and it is evident that new buildings can only be provided of the cheapest and simplest order; and to enable even this to be accomplished it is generally understood that by-laws which are still to be operative against the private owner are to be relaxed in the case of the public authority. This enables Mr. Potter to add wood to his list of available building materials, and he might with advantage have added another, viz. "cob" or clay walls, so frequently used in many parts of the kingdom, and particularly in the West Country in days not very long ago. For warmth this material is difficult to beat.

Mr. Potter favours walls of monolithic concrete of such extreme tenuity as almost to make one shiver. Plans of three grades of farm buildings differing but slightly except in size are shown. The smallest seems almost too good for a holding of 10 or 15 acres, while the largest might well serve one larger than 50 acres.

For the tenant the author provides a house or cottage of a single-story bungalow type, which he prefers to a two-story cottage. The obvious disadvantage of the bungalow, and one from which the two-story type is free, is that the living room of necessity becomes a passage room, and we get, as here shown, a room 14 feet by 12 feet, with no less than five doors leading to or from it. Couple this with 7-inch walls of cinder concrete, an exposed position, and the acme of discomfort would seem well within reach.

Three bedrooms, a scullery, wash-house, &c., complete the dwelling-house. Details of cost are given more or less net, that is without builders' profits, water-supply, drains, roads, fences, &c., somewhat important items to omit, especially as most of them are likely to be required. The single cottages are estimated to cost £200; the smallest of the farm buildings works out at about £180; to meet the omitted items would probably take £40—a total altogether of £420.

Then the land. If run out of cultivation, as some Essex land, for example, £10 per acre might be dear; if in high cultivation and favourably situated, £30 to £60 might not prove an excessive purchase price. At £30 per acre, plus £420 for the buildings, a 15-acre plot would cost a County Council £870 before a tenant could be planted thereon, and from him rent must be obtained sufficient for annual upkeep, and the sinking fund to recoup the outlay in such a number of years as may be decided upon by the Government officials. How much will do it is the interesting problem now being worked out. Four per cent. means well over £2 per acre. Five per cent. nearly £3. Much over this would seem to be "grinding the faces of the poor" with a vengeance, yet it must be done or the holdings must be let or sold to a capitalist of much the same type as the present tenant-farmer, but of smaller means and burdened with a greatly increased rent. However, the experiment is being tried, and the result remains to be seen. Whether successful or the reverse, the Act of 1908 will have called forth an able little work useful to many others than those for whose benefit the Act itself is intended.

T. E. Pryce [*A.*].

PROPORTION IN ARCHITECTURE:

AN EXPLANATION FROM A NEW POINT OF VIEW.

By R. M. Hamilton [*A.*], Perth, West Australia.

Proportion in architecture has been speculated and theorised upon ever since man turned his mind to the search for principles underlying design. In antiquity artificial canons of proportion in architecture were established, notably in Egypt and Greece, which were adhered to from custom, and which gained a semi-sanctity and authority through temple architecture being connected with the priestly office. How these canons were arrived at and on what reasons they were based is unknown, but probably they were founded on the relationship of certain measurements to others, numerical or geometrical, and in multiple or ratio. The difficulty of now unravelling these is due to our ignorance of the exact length of the unit of measurement of those times. These canons may be described as the mechanical method of proportion; but the matter may be approached from another point of view.

As the Greeks reached the highest pitch of perfection in architecture, and possessed an artistic perception superior to any modern people, we will limit the question to their work. What they accomplished shows such an intuitive sense of proportion, such an innate delicacy of feeling for the fitness of things, that it carried them far beyond anything moderns can show. In one respect their problems were simpler than ours. They had no enormous buildings put to multifarious uses and cut up into a multiplicity of small parts; they could almost choose their conditions; and with them largeness, breadth, and simplicity were the leading motives—restfulness and dignity, in place of unrest and banality. Whether this result was attained by rules thought out from observation and deduction—the mechanical method—or by the spontaneous intuitive sense of the right thing to do and the power of doing it which gives that feeling of inevitableness to all true artistic outpouring, the fact remains: their creations still speak to us even in their now mutilated state, and still invite a speculative investigation.

Proportion in architecture may be defined for our present purpose as the relationship of large parts to the whole edifice; of smaller divisions to larger; of height to length; of story to story; and of story to height and length of façade. It will, further, apply to the relationship of an important feature, such as a cornice, to the rest of the building.

The investigations by scientists of the phenomena and laws of vibratory action and its effects are receiving great attention, especially in connection with its effects on man's psychological nature. We already see a widely extended attempt among students of this vibratory theory to supply a working hypothesis for many phenomena lately unfolded, inexplicable by any present hypothesis. In fact, the law of vibration will be found at the bottom of all bearing on the human sensitiveness, and to apply also, I venture to suggest, to the case of artistic production in general, and especially to the subtilties of proportion.

The laws of vibration we can most clearly and easily understand from the phenomena of sound and music, as here the causes and effects can be most visibly demonstrated. Vibratory motion is shown to constitute the phenomena pertaining to sound, heat, light, colour. It will be applied to another series of still more rapid action, such as electricity, radio-activity, and up at last even to human thought. Thought is a mode of vibration which will be realised as a fundamental law of life itself. We live by vibration. Psychic sensitiveness, telepathy, thought-transference, are caused by impulses, and all living matter is governed by vibratory action. Everything has its own inherent rate of vibration which emanates from and impinges upon others. With regard to musical sounds, we know that notes which produce what we call harmony are those whose vibrations synchronise most frequently. If two tuning-forks or violin-strings of the same pitch are placed near each other, and one set vibrating, the second will gradually pick up that rate until it synchronises with the first and both give forth the same sound. Wireless telegraphy is the latest application of this principle. The law runs through all nature, including human beings, especially on the psychic side of our complex organisation. Our nature receives and responds to all impulses palpitating through the ether: some we receive through our outward organs of sense; others, more subtle, through our higher faculties—not much developed in many of us. As this becomes more generally recognised it will solve many of the deeper perplexing problems of our being. At the same time all the varied phenomena will fall naturally into their places.

There is only one law covering the whole domain of vibratory action—of which sound has been used for the purpose of elucidation—and our psychic nature is amenable to that law. It receives, responds to, and synchronises with such rates and to such a degree as each individual's nature is capable of; some are highly pitched, responsive to certain kinds of effects and dull to others. In this respect artists of all kinds are more sensitive than the ordinary man; they are more highly strung and perfectly tuned instruments, more impressionable, and responsive to subtler vibratory effects. All who minister to the loftier feelings, who seek to please and to satisfy their cravings after the beautiful, are artists—painters, poets, musicians, architects, and others. All are composers (placers together) of the ideal, seeing and feeling inwardly, and objectifying their impressions. The architect is one of the completest of artists, as he composes in the round when designing a noble pile, and combines form, colour, and material.

A great edifice is one of the loftiest conceptions of man's mind working within certain given limits, a delight to the eye and sense. As a composition of colour, form, and arrangement, what a symphony it is! It raises a lofty responsive effect within, filling us with the purest abstract pleasure and thrilling us with appreciative emotion. In producing this effect proportion assumes a pre-eminent importance. The relation of parts to the whole—unity, variety, symmetry, contrast—produces eurythmy, just as tones combined in melodies and chords produce euphony. Their subtle effects play on the finest qualities of man lying deep within his psychic nature. Proportion is the golden thread binding the whole composition together. Just what makes it good or bad has evaded and baffled explanation, for the effect is felt inwardly, and is not much reasoned upon outwardly on account of its subtilty—it is just accepted. Nevertheless, these sensations are as true and real as the most superficial, if not more so. Thereby the parts of a building, by their order, combination, and correlation, raise within us an harmonious state of vibration which we call proportion.

The Greeks were the most artistically sensitive of people. Music was recognised as one of their most important subjects of education, and with philosophy and metaphysics formed the greater part of their intellectual training. They fully realised the refining, elevating power of music; and in art it was their exquisite sense of harmonious fitness—intuitive probably rather than reasoned—which has established them their pre-eminence. Much search has been devoted to discover a canon of proportion by which they worked, but in all their temples variations are found. The beautiful result which appeals to us was reached, as with everything human, by degrees and by an orderly evolution, though certainly a very rapid one in their case. That spontaneous artistic feeling was due to their very sensitive temperament. The Greeks could sense inwardly the purest and most delicate *nuances*. The fine modifications introduced by them into their most beautiful edifices of the best period could only have been made to satisfy a wonderful delicacy of perception and receptivity to appreciate such ultra-refinements. It was almost a case of painting the lily. There must have been, too, a sufficiently large number of the nation who could recognise and also appreciate such artistic minutiæ outside a select few, for it cannot be presumed that such pains were taken to attain a pedantic perfection. The Parthenon was like a great chord of perfect harmony in its proportions, vibrating with that feeling of spontaneity and inevitableness with which all great inspirations palpitate on the senses, beating in on the psychic nature of man, setting it thrilling and vibrating in response, and with an intensity commensurate with his innate God-given capacity for receiving and delighting in them.

9 Conduit Street, London, W., *9th April* 1910.

CHRONICLE.

The New Constitution of the Institute.

At the opening of the General Meeting last Monday the Chairman (Mr. A. W. S. Cross, *Vice-President*) made the announcement that the Revised By-laws, with one exception, had received the sanction of the Privy Council, and that the enlarged powers granted under the Supplemental Charter of 1908 would now be exercised and the Revised By-laws come into immediate operation.

The exception the Chairman referred to is the draft By-law 24, setting forth grounds for reprimand, suspension, or expulsion of members. For this the Privy Council have substituted the old By-law 22, making it to apply also to Licentiates, and they have asked the Council to submit an amended form of words with reference to the action to be taken towards members who take part in competitions against the wish of the Council. This amendment will be taken into consideration by the Council without loss of time, and their recommendations will be submitted to the General Body.

The Revised By-laws came before the Privy Council for final consideration on the 23rd March, and their Lordships' approval has been signified in the following terms:—

"Whereas by Section 33 of the Supplemental Charter of the Royal Institute of British Architects dated the 28th day of March 1887, it is provided that the said Royal Institute may from time to time by Resolution of a General Meeting confirmed at a subsequent General Meeting, which shall be held not less than seven and not more than twenty-eight days after the former Meeting, make and adopt such By-laws as may be deemed expedient, and may in the same manner vary, suspend, and rescind any By-laws and make and adopt others in their stead, but so that the By-laws for the time being be not in any respect repugnant to the Law of England or inconsistent with the said Supplemental Charter: Provided always that no such By-laws shall be of any force or validity whatever unless and until they have been approved by the Lords of the Privy Council.

"And whereas the said Royal Institute has by

Resolution of a General Meeting held on the 7th day of February 1910, and confirmed at a General Meeting held on the 15th day of February 1910, made and adopted certain Revised By-laws to be substituted in place of the existing By-laws of the said Royal Institute.

"And whereas the said Revised By-laws were this day read at the Board.

"Now therefore, Their Lordships, having taken the said Revised By-laws (a copy of which is hereunto annexed) into consideration, are hereby pleased to approve the same.—ALMERIC FITZROY."

The revised constitution of the Institute is the outcome of the labours of the Registration Committee appointed by the Institute over six years ago [JOURNAL, 9th Jan. 1904], and the scheme embodied in the new Charter and By-laws is based on a report of that Committee which was adopted by the Institute on the 2nd April 1906. A *résumé* of the Registration Committee's proceedings will be found in the speech of Mr. Edwin T. Hall, Chairman of the Meeting which adopted the report [JOURNAL, 7th April 1906].

The momentous change in the constitution, especially in regard to the establishment of the class of Licentiates, is being made known by advertisement in the Press throughout the British dominions. The Council hope that architects throughout the Empire, whether in practice or acting as assistants, who are not members of the Institute will take this opportunity of becoming associated with the representative body of their profession. It is considered that only by some such step as this can the Institute hope to obtain through public action a higher general standard of professional attainment among architects, and a greater measure of organised strength for the protection of the interests of the profession.

The following letter has been addressed to the Presidents of Allied Societies :—

DEAR SIR,—We have the honour to invite the attention of your Society to an important development in the constitution of the Royal Institute of British Architects which has lately been sanctioned by the grant of a Supplemental Charter and new By-laws by His Majesty the King and the Privy Council.

A new class of members, having the chartered right to the designation of Licentiates of the R.I.B.A., has been created. This class is open to all practising architects of good standing who have attained the age of thirty years, and either (*a*) have been engaged as principals for at least five successive years in the practice of architecture, or (*b*) have been engaged for at least ten successive years in the practice or the study of architecture.

Candidates for this class are not required to pass an examination or to submit to election by the General Body, but must satisfy the Council of the Royal Institute that they are fit and proper persons to be admitted to the class.

Under the provisions of the Supplemental Charter of 1908 *candidates for the class of Licentiates will only be admitted during the twelve months from the* 23*rd March* 1910 *to the* 23*rd March* 1911.

Under His Majesty's Charter any Licentiate who is eligible as a Fellow may at any time before 31st December 1920 be admitted for nomination to the class of Fellows when he has passed an examination to be prescribed by the Council.

Licentiates will be required to make an annual payment of one guinea to the Royal Institute, and for this they will be entitled (1) to use the affix "Licentiate R.I.B.A."; (2) to receive the JOURNAL, the KALENDAR, and other publications of the Royal Institute; (3) to use the Institute premises; and (4) subject to the Charter and By-laws to attend Meetings of the Royal Institute.

In view of the necessity of closer organisation of the members of the architectural profession throughout the Empire, both for the advancement of the art of architecture and for the promotion of the interests of the profession by means of Parliamentary or other action, it is highly desirable that a knowledge of this new means of becoming associated with the work of the Royal Institute should be spread as widely as possible among those architects who are at present outside its walls.

Any action which may be taken in the future to secure a higher standard of professional attainment and a greater security for properly qualified architects can only be successful if it is based upon the support of a substantial majority of the practising architects of the Empire, and the Council of the Royal Institute hope that your Society will do all in its power to assist the efforts that are now being made to obtain this support.

We have pleasure in sending you herewith a packet of nomination papers for Licentiates, and we shall be glad if you will take an early opportunity of making an official announcement and of taking effective steps by sending by post to all the architects in your province a notice of the creation of this class, drawing special attention to the fact that it is only open for twelve months, and informing them that the above papers are in your hands and may be obtained on application at the offices of your Society.

We feel that it is the duty of the Institute and its Allied Societies to get into touch with all architects in the Empire, and we are sure that we may count on your zealous personal assistance to this end.—We have the honour to be, dear Sir, yours faithfully,

ERNEST GEORGE, *President.*
HENRY T. HARE, *Hon. Secretary.*
IAN MACALISTER, *Secretary.*

The following is an extract from an article which appeared in *The Times* of the 2nd inst. :—

The new powers with which the Institute has been invested will enable it to enter upon a more extended field of influence and usefulness. The hope is entertained that it will now be in a position to gather into its fold every

architect (whether a principal or an assistant) who can satisfy the Council that he has had a certain specified training and experience. Under the new Charter provision is made for the entrance of all such trained men, who are to receive the title of "Licentiates of the Royal Institute." Hundreds have already applied for admission, and it would seem natural to expect that all who are eligible to join the ranks of the Institute will do so for the furtherance of architecture. The Charter also consolidates and regularises the educational side of the Institute, and develops its activities in many other directions.

The Institute received its first Charter in 1837 from King William IV. Queen Victoria, on her accession to the throne, became its patron, and in 1866 commanded that it should be henceforth styled "The Royal Institute of British Architects." Under a subsequent Charter granted in 1887 the principal architectural societies of the United Kingdom and the Colonies were or have since become allied to the Royal Institute, provision being made for the representation of the most important of these societies on its Council. The examinations were extended and improved, and an educational curriculum was formulated under which architectural schools have been established all over the country. The result of this development was eminently satisfactory, the younger men fully responding to the claims made upon them. At the same time the Royal Institute realised that in order to educate the public generally in architecture it was necessary first to arrest their attention by demonstrating to them that the Institute was concerned not only with æsthetic considerations, but, in the words of the original Charter, with promoting "the domestic convenience of the citizens," and with this object in view the Institute placed the technical knowledge represented by their body at the disposal of the public. In 1890 it was heard for the first time as a corporation before a Parliamentary Committee on a Bill affecting buildings, public improvement, and the laying out of streets. From that time onward the Institute has taken part in practically every piece of legislation affecting the public improvement and embellishment of towns and cities, including the Town Planning Act of the last Parliament. The public have realised the value of an organisation which had no personal ends to serve and which occupied an independent position, of a body of technical experts in matters intimately associated with their welfare, and standing midway between legislative and executive bodies. At the present time there is a great and increasing interest taken in architecture, not only all over the country, but in the dominions beyond the seas, and a general sympathy with every movement for the embellishment of towns and cities.

With this increasing appreciation of architecture and the greater zeal and earnestness of its exponents it is not surprising that, particularly in the younger men, there should have arisen a desire for legislative recognition of their profession. There is now a prospect that this ambition may be gratified. As soon as the Licentiate class is established the Institute proposes to apply to Parliament for an Act to enable the public to distinguish between a properly qualified architect and a man who merely uses the title commercially without having any trained aptitude for the exercise of the art.

It is hoped, and the hope will be shared by many outside the ranks of the profession, that the changes now about to take place will greatly contribute to the prosperity of the Royal Institute as the corporate representative of British architects, and enable it to devote its energies even more successfully than before to its purpose, described in the words of its own motto—"Usui civium decori urbium."

The Charters and By-laws under which the Institute is henceforth to be governed are issued in pamphlet form to every member with the present number of the JOURNAL.

"Dry Rot" (*Merulius lacrymans*) in Timber.

With the last number of the JOURNAL was issued to members a Paper giving a description of the disease known as dry-rot in timber and enumerating some of the causes which contribute to its spread. The Council purpose issuing this document as an Institute Paper at the price of 2*d.* a copy so that members may procure copies to send to their clients if they think fit.

The Council desire to lay down a few principles which may guide architects in minimising and possibly arresting this disease in new buildings, viz.:

1. No timber should be used in such a position that the moisture in and around it cannot be readily evaporated, as, for example, if floors are constructed of solid concrete (with or without steel) wood fillets should not be nailed underneath to receive the ceiling.

2. No wood slips should be built into or on the top of concrete and afterwards covered with an impervious floor, and no wood boards should be laid direct on the concrete and afterwards covered with an airproof material, such as linoleum, oilcloth, &c.

3. All ground under a wooden floor should be cleared of any vegetable or fungoid growth and covered with cement concrete or asphalte, and this should be left as long as possible before any joists or flooring are laid.

4. No wooden pegs communicating with the earth beneath should be left in and through the covering over the earth.

5. Provision should be made for the abundant introduction of fresh air underneath all parts of the ground floors by means of inlets, and particularly at all angles so that cross-currents may be induced.

6. The concrete under floors should be thoroughly cleared of all small pieces of wood and shavings, as it has been found that the spores in these pieces of wood, drawing the moisture from the concrete, have been a means of spreading the disease.

7. In upper floors of wooden joists if a pugging be inserted for sound-proofing it is suggested that this be of some dry substance, such as slag-wool, but in no case must an impervious material be used for the ceiling beneath or the floor covering above.

Suggestions have been made by experts and others to creosote the ends of all joists built into a wall, but this is not generally practicable, as the odour of the creosote in a residence would be very objectionable to many.

Dinner to Mr. Edwin T. Hall.

Reference was made in the last issue to the complimentary dinner which the Council were then arranging to give to Mr. Edwin T. Hall [*F.*]. The occasion for the compliment was Mr. Hall's retirement from the Institute Parliamentary Bill Committee and the Council's desire to show in some way their appreciation of the valuable work he has done for the Institute on various Committees, notably those for the revision of the Charter and

By-laws, and to recognise also the eminent service he has rendered the profession when as delegate of the Institute he has attended before Parliament or Government Departments and given evidence on matters affecting architecture and building, or on questions relating to the practice of the profession. The dinner was held at the Café Royal on the 21st ult., the company including Mr. Ernest George, A.R.A., *President*; Sir Aston Webb, C.B., R.A., and Mr. John Belcher, R.A., *Past Presidents*; Mr. Henry T. Hare, *Hon. Secretary*; Professor Reginald Blomfield, A.R.A., Mr. E. Guy Dawber, and Mr. James S. Gibson, *Vice-Presidents*; Messrs. Max Clarke, W. A. Forsyth, J. A. Gotch, F.S.A., H. V. Lanchester, Ernest Newton, Andrew N. Prentice, Percy Robinson, John Slater, Leonard Stokes, Henry Tanner, jun., P. S. Worthington, *Members of Council*; Messrs. Stanley H. Hamp [*A.*], A. Needham Wilson [*A.*], E. Stanley Hall (Mr. Edwin T. Hall's son), and Ian MacAlister, *Secretary*. Letters were received from many other members regretting their inability to be present.

The late W. M Mitchell, R.H.A.

The death of William Mansfield Mitchell, R.H.A., which took place at his residence, Abbeylands, Killiney, Co. Dublin, on the 12th March, at the age of 67, is felt as a great personal loss by all his brethren in Dublin, and the passing of his kind, pleasant personality has left a void which will not be readily filled. Although Mr. Mitchell had been in failing health for some time past, it was not anticipated that the end was so near. It was a tragic coincidence that, almost to the day, his old friend and professional *confrère* of so many years' standing, Sir Thomas Drew, should breathe his last. Mr. Mitchell occupied a deservedly high place in the esteem of his professional brethren, and of all who had the privilege of his acquaintance. His extremely courteous manner and kindly disposition were such that it is safe to say he had not an enemy. When Sir Thomas Drew vacated the presidential chair of the Royal Institute of Architects of Ireland after an exceptionally long tenure of office, Mr. G. C. Ashlin became his immediate successor, to whom succeeded Mr. Mitchell, his brethren thus paying him the highest compliment in their power, for amongst the entire profession in Ireland there was no more popular and highly respected member.

Mr. Mitchell was a pupil of the late Sir Thomas Deane, and amongst his contemporaries in that office were the late Mr. (afterwards Sir) Thomas Newenham Deane, and the late J. J. O'Callaghan. Upon leaving Sir Thomas Deane's office, Mr. Mitchell entered into partnership with Mr. Wm. M'Curdy, R.H.A., then President of the Royal Institute of Architects of Ireland, who had a very extensive practice. Subsequently, after Mr. M'Curdy's death, Mr. Mitchell practised alone, and carried out a number of important commercial and other undertakings, and attained a foremost position amongst Irish architects. The chief works carried out from his designs were the Masonic Female Orphan Schools, Merrion, Dublin; the Hôtel Métropole, Dublin; Grosvenor Hotel, Dublin; the Spa Hotel, Lucan; Messrs. Poyntz' and several adjoining business premises in Grafton Street; Messrs. Grandy's premises, Stephen's Green; the new wing Mercers' Hospital; Messrs. Todd, Burns, & Co.'s large new premises, Mary Street, Dublin; the new hall connected with the Presbyterian Church, Upper Ormond Quay, Dublin; the City of Dublin Municipal Technical Schools; Messrs. Pim Brothers' extensive premises in Exchequer Street and adjoining houses; the Methodist Church, Clontarf; important additions to Glenart, for the Earl of Carysfort; additions to Holy Trinity Church, Blackrock; additions to St. Paul's Church, Glenageary; gate lodge, Kingstown Park; and many other works.

Mr. Mitchell was an old member of the Royal Institute of Architects of Ireland, in the working of which he took the deepest interest, being for many years and up to the time of his death a member of the council. Until a few months ago he was a Fellow of the Royal Institute of British Architects, having been elected in 1899; he resigned his Fellowship owing to ill-health. He was a Royal Hibernian Academician, and acted as honorary treasurer of the Academy for many years, taking an active interest in its affairs. He was a member of the old Architectural Association of Ireland, and when it was revived in 1896 was one of the first to rejoin. R. M. BUTLER [*F.*].

ARCHITECTS' BENEVOLENT SOCIETY.

Annual Report of the Council adopted at the Annual General Meeting on the 8th March 1910.

The Council, in submitting their sixtieth annual report, have to express regret that during the year under review, while the list of subscribers has suffered severely from the death of old members, only two new names have become enrolled among the members, viz. Mr. H. C. Corlette and Mr. Percy W. Lovell, while Mr. Wm. Glover has doubled his annual subscription.

In the relief of cases £1136. 18*s.* 6*d.* has been disbursed, including £270 paid to pensioners. The number of applications in which help was given amounted to ninety.

The Income Account shows excess of expenditure over income of £54. 0*s.* 2*d.* The demands on this account were largely relieved by a special grant of £25 from the Royal Institute of British Architects, by a special subscription of £20 from Mr. H. Beswick (in addition to his usual subscription of £2. 2*s.*), and by the sum of £47. 2*s.* 8*d.* recovered from the Income-tax authorities, being the rebate on two years' income.

The Capital Account has been increased by three bequests: Mr. J. W. Penfold £100, Mr. Joseph Parkinson £50, and Mr. N. S. Joseph £25. In addition to these sums the following donations have been received:—Mr. John T. Christopher £105, Mr. J. Macvicar Anderson £10. 10*s*., Mr. Arthur Ashbridge £10. 10*s*., Mr. J. Borrowman £10. 10*s*., Mr. John Belcher £10, Mr. Ernest George £5. 5*s*., Mr. W. Hilton Nash £5. 5*s*., Sir Lawrence Alma-Tadema £5. 5*s*., Mr. W. H. Lever £5, and some smaller amounts. Most of the above donors have from time to time made handsome contributions to the capital as well as being liberal annual subscribers.

In consequence of this addition to the capital, the Council were enabled to increase the Society's investments by the purchase of £200 Queensland 3 per Cent. Inscribed Stock at a cost of £171. 16*s*., and £200 New Zealand 3 per Cent. Inscribed Stock at a cost of £175. 16*s*.

Instead of meeting on undefined dates as hitherto, the Council have decided to meet on the second Tuesday in the months of February, May, July, October, and December, as well as before the Annual General Meeting in the second week in March, when applications will be considered and other business transacted.

In view of the diminution in the number of subscribers the Council would urge upon members to use their influence, on behalf of the Society, with all architects in active practice. As the aims and objects of the Society are, by advertisement and other means, brought prominently before the architectural profession repeatedly during the year, it is felt that the expense incurred in seeking further publicity would not be justified by the results. But it is essential, if the necessitous cases which come before the Council are to be adequately dealt with, that an effort should be made to secure the practical support of all architects who are in a position to contribute to the needs of their poorer brethren or to those whom they have left insufficiently provided for.

The following being the five senior members, retire by rotation from the Council:—Mr. Lacy W. Ridge, Mr. J. T. Christopher, Mr. J. Douglass Mathews, Mr. Wm. Dunn and Mr. Henry T. Hare. To fill the vacancies caused by these retirements the Council have the pleasure to nominate Sir Brumwell Thomas, Mr. Walter Cave, Mr. F. W. Hunt, Mr. Reginald St. A. Roumieu and Mr. Lewis Solomon.

The thanks of the Society are due to the Proprietors of *The Builder*, *The Architect*, and *The British Architect* for granting space for free advertisements in their respective journals.

The Council also desire to thank the Royal Institute of British Architects, both for generous contributions and for office accommodation, as well as the Staff of the Institute for their willing assistance in all matters connected with the Society.

COMPETITIONS.

Acton School Competition.—Members of the Royal Institute of British Architects are requested not to take part in the above competition.

By order of the Council,

6th April 1910. IAN MACALISTER, *Secretary.*

The National Museum of Wales.—An exhibition of the designs submitted in this competition will be held at Bloomsbury Hall, Hart Street, Holborn, from the 11th to the 16th April inclusive. Hours of exhibition 10 A.M. to 7 P.M. Admission free.

CORRESPONDENCE.

REVISED REGULATIONS FOR ARCHITECTURAL COMPETITIONS.

To the Editor JOURNAL R.I.B.A.—

SIR,—In the discussion at the Business Meeting on 28th February last, I moved on Clause 3 that the words "or Consulting Architect" be inserted.

In my observations I drew attention to the fact that in several competitions (and some of first importance) the assessor had been induced to act as consulting architect; and I expressed the opinion that this was in contravention of the spirit of the Institute's rule that an assessor should not be interested in the result of his award. Incidentally I adduced a personal experience in support of my argument. The personal experience is not worth further notice, but a note of the motion is required to give point to the subsequent remarks (pp. 419, 420) made by Mr. Hare and others.

May I take the opportunity of adding that the practice is conceivably the best possible in some cases, but that it is one of those which easily lends itself to abuse?—Yours faithfully,

A. SAXON SNELL [*F.*].

ALLIED SOCIETIES.

The Royal Institute of the Architects of Ireland.

A special and largely attended Meeting of the Council was held on Friday, 18th March, at 31 South Frederick Street, Dublin. The President, Mr. Frederick Batchelor, A.R.H.A. [*F.*], occupied the chair, and addressed the Meeting as follows:—This week will ever be marked in the annals of our Institute by the passing from amongst us of two of our oldest and most distinguished colleagues—Sir Thomas Drew and William M. Mitchell. To us who have had the honour and privilege of being associated with them in the work of this Institute, to us who have benefited by their wise counsel in times of difficulty and stress, to us it is given to realise, though very imperfectly, how great and irreparable is the loss which the architectural profession and this Institute have sustained by the lamented decease, within a few hours of each other, of these two lifelong friends. For forty-seven years—a lifetime, and more than a lifetime to many of us—has Sir Thomas Drew been identified

with this Institute. For forty-four years he has sat at this Council. From 1870 to 1873 he was Honorary Secretary of the Institute. In 1890 he was elected to the Presidential Chair, and so ably did he fill it, so appreciated by his brethren were his zealous efforts to maintain the dignity of his office, that for twelve successive years he was unanimously re-elected President—until, in fact, the new By-laws were passed in which the triennial election of officers was introduced, when Sir Thomas would no longer allow himself to be nominated for a further term. Since then, though much engrossed in public and professional business, Sir Thomas ever showed a keen interest in the affairs of this Institute. When just three months ago he received from the Lord Chief Baron a letter informing him of his appointment as Professor of Architecture in the National University he was naturally very much gratified; but, as he told me at the time, the feeling uppermost in his mind was that of satisfaction at the opportunity it gave him of organising such a school as would be of lasting benefit to the rising generation of architects in Ireland. He was a man of wide sympathies, always accessible, and ever ready to help and advise, especially the young student, who always occupied a very warm place in his heart. When the Architectural Association was resuscitated some ten years ago, Sir Thomas at once offered its members the use of rooms in his offices and also the use of his large and valuable professional library. In those important public buildings he designed during a long and distinguished career, in the great reputation he has left behind him as an architect, an artist, and a gentleman, his name and fame will be handed down, as an ideal and inspiration, to many future generations of students.

Of our dear friend and brother, William Mansfield Mitchell, I must say this: He was a man whom to know was to love. One of those rare Christian characters who neither speak nor think evil of any man, it can truly be said of him that he had no enemies. Absolutely upright, fair, and just in all his dealings, that knightly motto *Sans peur et sans reproche* might indeed have been his. Of a somewhat shy and retiring disposition, he did not live so much in the public mind as did his old friend and comrade Sir Thomas Drew, but he did most useful work for this Institute during a membership of some forty-five years, and in 1905 he succeeded Mr. Ashlin as President. Of William Mitchell's work as an architect it may be said that he showed the painstaking care and attention to detail which was characteristic of the man; his practice lay very largely in commercial work, and some of the finest business premises in Dublin were designed by him.

Gentlemen, if we to-day are oppressed by a sense of the greatness of our loss, by the gap which the passing of these friends and colleagues has made in our ranks, we are the better able to sympathise with Lady Drew and the members of Mr. Mitchell's family in their sorrow and bereavement, and therefore I beg to submit the following resolutions of condolence and sympathy:—

Sir Thomas Drew, P.R.H.A., LL.D.—The Council of the Royal Institute of the Architects of Ireland desires respectfully to convey to Lady Drew an expression of its deep sympathy in her bereavement. In the death of Sir Thomas Drew the Institute has suffered an irreparable loss. As its President, which office he held for twelve years, he devoted ungrudgingly his time and talents to the best interests of the profession he represented. An architect of the highest ability and culture, he will be remembered by his colleagues on the Council with affectionate esteem.

William Mansfield Mitchell, R.H.A.—By the death of William Mansfield Mitchell the Royal Institute of the Architects of Ireland have lost a loyal supporter and the members of the Council a valued colleague. A single-hearted gentleman, he held through a long professional career the esteem and affection of his brother architects, and the Council of the Institute, as their representative, desires to convey to Mrs. Mitchell and his sons and daughters an expression of its deep sympathy.

The resolutions were seconded by Mr. C A. Owen [*F.*], and supported by Mr. R. C. Orpen, who referred to the happy years he had spent as a pupil and managing assistant in Sir Thomas Drew's office, and by Mr. G. F. Beckett, President of the Architectural Association of Ireland. Mr. Batchelor then declared the resolutions carried, all present standing.

The Edinburgh Architectural Association.

Mr. J. B. Stoughton Holborn delivered a lecture on "The Spirit of Mediæval Art" at a meeting of this Association held on the 30th March. There were, the lecturer said, three main abstractions pursued by mankind—beauty, goodness, and truth—and the pursuit common to all the arts was the pursuit of beauty. The highest civilisation the world had known was that of ancient Greece, and the Athenians pursued all three. In the Middle Ages truth was lacking, and when this defect was remedied goodness was left behind, the result being the corruption of the Renaissance period. The present was a scientific and moral age, but the search for beauty was wanting, and the sordidness of our great cities was the outcome.

MINUTES. XI.

At the Eleventh General Meeting (Ordinary) of the Session 1909-10, held Monday, 4th April 1910, at 8 p.m.—Present, Mr. A. W. S. Cross, M.A.Cantab., *Vice-President*, in the Chair; 30 Fellows (including 10 members of the Council), 33 Associates (including 2 members of the Council), 2 Hon. Associates, and several visitors—the Minutes of the Meeting held 14th March having been already published [*ante*, p. 428] were taken as read and signed as correct.

The Chairman announced that intimation had been received of the sanction by the Privy Council of the Revised By-laws, with one exception, and that they would come into immediate operation.

The Hon. Secretary announced the decease of Jesse Horsfall, of Manchester, *Fellow*, elected 1893; and Charles Albert Monday, *Associate*, elected 1878; also of William Mansfield Mitchell, R.H.A., Past President of the Royal Institute of the Architects of Ireland, who had recently resigned his Fellowship owing to ill-health. Upon the motion of the Hon. Secretary a vote of condolence was passed to the relatives of the late Mr. Mitchell.

Mr. Arthur Hamilton Moberly, M.A.Cantab., *Associate*, attending for the first time since his election, was formally admitted by the Chairman.

A Paper by Mr. George Hubbard, F.S.A. [*F.*], on Architecture on the Eastern Side of the Adriatic having been read and illustrated by lantern slides, a discussion ensued, and a vote of thanks was passed to the author by acclamation.

The Meeting separated at 10.5 p.m.